The contribution of behavioural assessment to the planning of care and treatment with the mentally handicapped.

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ABSTRACT

The identification of mental deficiency typically involves consideration of degree of social adaptation or level of measured intelligence. Dissatisfaction with the confusion then existing over criteria for mental retardation led the American Association on Mental Deficiency (AAMD) to publish revised terminological and classification criteria in 1959 (Heber) with subsequent revisions in 1961 (Heber) and 1973 (Grossman). The AAMD Adaptive Behavior Scale (Nihira et al. 1969, 1974) was developed to provide an assessment measure to complement criteria derived from standardised tests of intelligence. Factor analysis of Parts I and II of the scale to establish its construct validity identified three factors described as Personal Independence, Social Maladaptation and Intra Maladaptation in a heterogeneous group of mentally retarded persons living in hospital (Nihira 1969 a,b). Various studies (Nihira 1976, Lambert and Nicol 1976) suggest that the scale measures a broad dimension of adaptive behaviour with associated dimensions of personal and social responsibility. Inter-rater reliability on the scale are limited and are of varying degrees of acceptability (Sundberg, Snowden and Reynolds 1978). Reported reliabilities for Part II domains are systematically lower than those for Part I.

This study examined the factor structure and inter-rater reliability of the Adaptive Behavior Scale (1974 Revision) when data were gathered on 401 residents of a Scottish mental deficiency hospital. Factor analysis of scale domains and items indicated a satisfactory degree of factorial congruence with earlier studies. Analysis of the domain structure of Parts I and II yielded two major factors labelled Personal Adaptation and Personal Maladaptation. Analysis of Part I items identified important factors described as Community Self-Sufficiency and Personal Self-Sufficiency. Minor factors from Part I were labelled Social Responsiveness, Work Performance, Social Presentation and Gross Motor Skills. Part II analysis identified two substantial dimensions described as Social Maladaptation and Personal Maladaptation, with minor factors characterised as Inactivity and Sexually Aberrant Behavior. Part I inter-rater reliability data were generally more modest than those reported by Nihira et al. (1974) while Part II agreement was essentially unchanged. Factorial stability and reduced Part I inter-rater agreement were discussed in relation to the extension of scale use, methods of improving inter-rater reliability, proposed changes in the format of Part II and the introduction of resident centred programmes of adaptive behaviour development.

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DECLARATION

This thesis has been composed and conducted by myself apart from the assistance acknowledged above.

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INTRODUCTION

In this study the term mental handicap is used rather than the statutory Scottish designation, mental deficiency or its English equivalent, mental subnormality. This choice reflects the view of an earlier publication (D.H.S.S. 1971) that the appropriate response to mental handicap should be, as with all forms of handicap, positive action directed toward the alleviation and remediation of its consequencies. When discussing the development of provision either in the United Kingdom or the United States the contextually appropriate terms mental deficiency, mental subnormaility and mental retardation are employed (see Table 1.1).

The development of provision for the mentally handicapped has always been closely linked with expert opinion about its nature and course. The concept of mental defectiveness as distinct from mental abnormality or insanity has therefore been heavily influenced by contemporary formulations of the nature of man. As expert opinion on this matter has changed over the years, so too have official conceptions and provisions changed (O'Connor 1965, Heal et al. 1978).

Within the past thirty years attitudes toward the mentally handicapped have altered to the point of being characterised as a "reform movement" (Gunzburg 1973). This shift in public opinion has been reflected in changes in statutory definitions and provision concerning the mentally handicapped as a whole, but especial emphasis has been placed upon the necessity of moving away from the traditions and practices of custodial care.

While movements in public opinion and associated Parliamentary reactions are notoriously complex social processes, various authors have given an account of the development of mental deficiency and mental retardation as a social problem of public and Parliamentary concern (O'Connor and Tizard 1956, Hilliard 1965, Jones 1960). Various phases of innovation and enquiry, moral indignation and alarm, optimism and eventual pessimism have been identified as part of a continuing process of now almost two hundred years' duration.

TABLE 1.1

DESCRIPTIVE TERMS USED IN MENTAL DEFICIENCY

General Terms	Categories	Approximate IQ Range
	Mentally Handicapped	
	High-Grade	
	Subnormal	
	Feebleminded*	
	Moron	70-50
	Debile	
Mentally Handicapped	Mildly retarded	
Mentally Defective	Educationally subnormal	
Mentally Subnormal		
Mentally Retarded		
	Medium grade	
	Moderately retarded	49-25
	Imbecile*	
	Trainable	
Severely mentally handicapped		
Severely subnormal		
Severely retarded	Low grade	
	Idiot*	
	Profoundly retarded	24-0
	Untrainable	

* Abolished by 1959 Mental Health Act.

Adapted from Bone, Spain and Martin 1972.

On one view the response of society to the handicapped can be regarded as falling into three identifiably different periods each reflecting the preoccupying interests of the day (O'Connor 1965). In the first, educational techniques directed toward stimulating mental development in the severely defective were introduced in a number of European centres during the first half of the nineteenth century. This activity, though limited to relatively few persons, provided a stimulus to the development of similar provision in the United Kingdom and the United States.

These optimistic and pioneering endeavours were subsequently overtaken by a fundamentally more restricted view of human modifiability in which level of eventual mental development was seen as largely, if not entirely, predetermined by inherited factors. This pessimistic view of the mentally defective was later associated with evidence apparently showing a high relationship between mental deficiency and antisocial or criminal tendencies. The climate of opinion in which these views flourished made possible, indeed created, the conditions for the enactment of a statutory policy of social isolation and containment, through the medium of custodial care, which endured for almost fifty years.

More recently many long-established and accepted beliefs about the mentally handicapped have undergone substantial re-evaluation. Traditional methods and systems of management have been subjected to well-merited critical appraisal. Within the circumstances of statutory provision social performance of the handicapped has been shown to be highly related to environmental influences while even very substantially limited persons have been found to be capable of relatively complex skills given adequate task simplification and success identification. The most recent developments are therefore optimistic in character and reflect the resurgence of the former view that individual growth over a wide range of social performances is limited as much by the absence of opportunities to learn as by factors of immutable inheritance. The flux and reflux in opinion about the mentally handicapped, involving as it does the law, medicine, education and psychology has been characterised as the interplay of the nativist and the empiricist conception of mental development upon the public stage (O'Connor and Tizard 1956).

The historical development of provision for the mentally defective, long confused with the mentally abnormal, may equally be understood as the changing balance of influence between interested professional groups. By the middle of the nineteenth century statutory provision for the abnormal, and the defective was at a cross roads (Jones 1960). While some influential reformists called for easy admission and consequent early treatment others, preoccupied with the liberty of the subject, called for progressively more complex legal safeguards against the possibility of illegal or inappropriate detention. The legal resolution of the dilemma, applying to the abnormal and defective alike, made the discharge of either more complex, difficult and unlikely.

By the end of the nineteenth century the medical profession had established itself as the authoritative voice on matters of insanity and mental deficiency. Its view was formative in the development of opinion which saw the mentally defective as a public threat to the nation's well being and future health, a threat to be contained by custodial segregation and geographical isolation (Tredgold 1914). The psychological study of mental processes supported the view that mental development was orderly, regular and determinate. The study of individual differences, the evidence from scientific medicine and the influence of evolutionary theory cohered to provide the dynamic for the eugenic movement which campaigned vigorously for legislation to contain the feebleminded.

The introduction of statutory custodial care for the mentally defective came with legislation in 1913. It was made possible in part by the view that as mental defect or arrest was immutable, actual defectives were condemned to fail in their efforts to adapt to the complex demands of daily life. Within the Act mental deficiency was defined in terms of degrees of defect of mind, resulting in failure to show socially appropriate performance.

Within the United Kingdom, mental deficiency was an essentially minor field of interest for many years in medicine, psychology and education. The mental testing movement in the United Kingdom and the United States helped to foster the view that reduced measured intelligence and mental deficiency were one and the same phenomenon.

Similar conceptual and definitional confusions had hindered official estimates of prevalence from the very first, while continuing problems concerning the meaning of criterial measures were central to the development of admission practices in which reduced social adaptation came to be understood as synonymous with mental defect, notwithstanding adequate measured intelligence (Hilliard 1965). The absence of a statutory requirement to assess intellectual ability contributed to the admission of an increasing number of persons of below average, borderline and dull normal intelligence to mental deficiency hospitals in the thirty year period before 1959 (O'Connor and Tizard 1956, O'Connor 1965). Not until the change in the law in 1959 in England and Wales was measured intelligence included in the statutory definition of mental handicap. The restricted utility of this criterion has been discussed at some length (Burt 1921, Clarke and Clarke 1958, 1974, Gunzburg 1968).

Dissatisfaction with the confusion then existing over criteria for mental retardation in the United States led the American Association on Mental Deficiency (AAMD) to publish revised terminological and classification criteria in 1959 (Heber) with subsequent revisions in 1961 (Heber) and 1973, 1977 (Grossman). The AAMD acknowledged that classification of the retarded in terms of three or four broad groups could not encompass or do justice to their behavioural heterogeneity. While the utility of an additional measure of social adaptation was recognised a multi-dimensional classification scheme could not be entertained at that time (AAMD 1961) in the absence of a measurement scale of adaptive behaviour standardised on institutionalised retardates. Notwithstanding this lack AAMD stated that primary classification should make use of the two dimensions of Measured Intelligence and Adaptive Behaviour. The Vineland Social Maturity Scale (Doll 1953) was recommended as the measure for assessing social adaptation.

The AAMD subsequently established an Adaptive Behaviour Project Team charged with the development of an assessment measure to complement criteria derived from standardised intelligence tests. The Adaptive Behavior Scale (Nihira et al. 1974) provides an additional measurement dimension for those involved in the identification and habilitation of the mentally handicapped, and is now used in the United States and a number of other countries for a variety of purposes.

At present the resident hospital population of mentally handicapped persons in the United Kingdom remains at a substantial level though alternative long-term patterns of care have been suggested (Jay 1979, Peters 1979). Current interest focuses on the development of more individualised person-centred patterns of living within the mental handicap service (Mittler 1977 a, b).

The current resident hospital based group of mentally handicapped persons represents one legacy from an extraordinary chapter in the history of social provision. Though the circumstances leading to this development are now long since past certain issues, central to the wider public response to the phenomena of handicap, persist to today. At the very centre of continuing dilemmas are the unresolved and vexed questions of how mentally handicapped performance should be characterised, identified and managed.

CHAPTER 1

AIM OF STUDY

The AAMD Adaptive Behavior Scale (1969, 1974) was developed to provide an assessment measure for the identification of the mentally handicapped person's effectiveness in coping with the natural and social demands of his or her environment. Standardisation took place on residents of North American institutions for the mentally retarded. Various studies (Nihira 1969 a,b, 1976, Lambert and Nicol 1976) suggest that the scale measures a broad dimension of adaptive behaviour with associated dimensions of personal and social responsibility. Sundberg, Snowden and Reynolds (1978) note that inter-rater reliability data on the scale are limited and of varying degrees of acceptability. This study examines the factor structure and inter-rater reliability of the Adaptive Behavior Scale when used in the setting of a Scottish mental deficiency hospital and considers its relationship to the development of services for the mentally handicapped.

CHAPTER 2

PART 1: IDENTIFICATION AND INTERVENTION

PART 2: EUGENICS AND PESSIMISM

PART 3: SOCIAL PROVISION FOR THE MENTAL DEFECTIVE 1845-1960

SUMMARY

CHAPTER 2

PART 1: IDENTIFICATION AND INTERVENTION

Various authorities have pointed out the historic lack of differentiation of mental deficiency from mental abnormality and have highlighted the legal, medical and social implications of that confusion (O'Connor and Tizard 1956, Clarke 1958, Jones 1960, Doll 1962, Kanner 1967, Sarason and Doris 1969).

The distinction is not self-evident however, and is one that is not made in many countries (Hilliard 1965). Several of the above authors cite an early example of such a distinction contained in a statute, De praerogativa regis, of 1325, which enabled the King, Edward I of England, to hold the lands of idiots during their life-time and those of lunatics until their death or recovery. This recognition of a qualitative difference between the two mental disabilities was based on the view that the idiot, or born fool, suffers from a congenital and enduring lack of mental capacity, while the insane person is potentially able to recover his sanity (O'Connor and Tizard 1956, Clarke and Clarke 1974). Later definitions extended the idea of irreversibility as the essential criterion of idiocy to include the notion of ineducability. Kanner draws attention to the view of the idiot offered by Sir Anthony Fitzherbert in New Natura Brevium of 1534.

> "..... a person who cannot account or number twenty pence, nor can he tell who was his mother or father nor how old he is ....." (Kanner 1967).

If the legal profession were impelled by the dynamic of title and inheritance to consider types of mental deficiency little interest appears to have been shown in the topic by medical men before 1800. In his review of the history of medicine in relation to mental deficiency Kanner cites the bibliography of all publications pertaining to psychiatry, neurology and psychology compiled by Heinrich Laehr in 1899 for the period 1459-1799. Among the many thousands of enumerated and on occasion annotated items apparently not one reference occurs to mental deficiency.

Macgillivray (1962) outlined the historical development of the concept of mental deficiency, noting that the word idiot comes from the Greek where it was understood to mean "a person who cannot take part in public life and cannot carry on a conversation". In the ancient civilisations of Greece and Rome the defective child was left to die from exposure and neglect. In the years of the Roman Empire however deformed idiots were kept in many houses as figures of fun, while it is recorded that the custom of keeping a household fool or jester prevailed in a number of Scottish families until late in the eighteenth century; an example of a jester's costume, decorated with bells, is maintained at Glamis Castle (Macgillivray 1962).

Macgillivray notes that Avicenna, a reputed Persian physician of the tenth century identified amentia or fatuity as a category of mental defect. While Laehr's review found no evidence of interest in mental deficiency in European medicine, Macgillivray highlights the work of the Swiss, Felix Plater, in the classification of mental disorders. His work "Praxis Medica" published between 1602 and 1608, and in London in 1664, distinguished both mental weakness (mentis imbecilitas) and hyperkinesis (mentis defatigo) as states different from that of mental abnormality.

For most purposes however during the fifteenth, sixteenth and seventeenth centuries no distinction was made between deficiencies and abnormality of mental functioning. In England the Elizabethan Poor Law of 1601 established a precedent for the control of the poor, afflicted, unemployed and unemployable by their separation from society at large. Segregation esablished a pattern of increasing social isolation of a potentially disruptive group leading not only to an absence of contact with society in general but also assisting in the development of an almost total ignorance in that society of the nature of mental deficiency (Jones 1960, Hilliard 1965).

In Kanner's view two major cultural developments can be seen as promoting interest in the mentally defective. The first took the form of alternative views of society which emerged in France in the years before the French revolution, while the second arose with a growing preoccupation shown by European governments in the first half of the nineteenth century with the problem of endemic cretinism.

With respect to the first, the era before the French and American revolutions was, in essence, much concerned with the nature of society and with reassessment of man's relationship with man. The ideas of Rousseau were formative of renewed interest and concern for the rights of those so long neglected, including the condition of mental deficiency.

Even before Rousseau had appealed for fundamental changes in education or before Condillac had offered a view of mental development Jacob Periere had established a school for deaf mutes in Paris and had shown that they could be taught to communicate (Doll 1967). While Periere did not work with the mentally defective he is held to have made a major contribution to the philosophy and methodology of their education. Periere viewed all senses as extensions and modifications of the primary sense of touch and believed that, when stimulated, all were capable of leading to mental development. In his educational application of sensory stimulation Periere provided a framework for individual education based upon the use of intact senses to develop, reinforce or replace those found to be damaged. He stressed the importance of methods based on the individuals felt needs, expressed through an individual educational programme directed toward social ends and based upon the fundamental educational principle of proceeding from the known to the unknown (Doll 1962).

Those who have written about the history of provision for the mentally deficient concur that the foundation of education for the mental defective lies in the work of Jean Itard (O'Connor 1965, Kanner 1967). His application of sensationalist principles of mental development to the education of a young man found living wild in the forests of Aveyron in 1798 is understood to be the point at which new ideas in philosophy and education came together as a profitable enquiry. Originally brought to the attention of a certain Abbe Bonaterre of the Central School in the Department of Aveyron, Victor, as the wild boy came to be called, was taken to Paris as an example of the original state of man, and as an object of interest in whom Condillac's followers could observe the development of primitive mental faculties (Kanner 1967).

Abbe Bonaterre thought that Victor would provide important evidence on the general question of the nature of man, though his view was qualified by the reservation "provided that the state of imbecility did not offer an obstacle to instruction". (Macgillivray 1962).

It is reported that Victor was originally taken to a school for deaf mutes in Paris. There his education proved difficult and eventually impossible, as he persisted in removing his clothes and attempting to run away, to the point that he was permitted finally to wander neglected through the school. The boy was eventually taken to Itard, a physician at the National Institution for the Deaf at Paris. Itard undertook a psychologically based course of instruction which was to last, in all, for some five years. In this activity Itard was motivated by a wish

> "to solve the metaphysical problem of determining what might be the degree of intelligence and the nature of the ideas in a boy who, deprived from birth of all education, should have lived entirely separated from individuals of his kind".
>
> (Macgillivray 1962).

The aim of Itard's educational approach included teaching him to speak, developing appropriate social activity and bringing him into contact with the complexities of social life. Two opposing schools of thought emerged about this enterprise. The first, essentially pessimistic, led by Pinel, Physician in Chief to the Insane at Bicertre in Paris, declared that the boy was an idiot, and hence ineducable. The second maintained by Itard and optimistic in tone, held that the boy was merely wild and untaught.

At the end of five years instruction Itard had to admit himself defeated in his attempt to civilise his charge, whom he now felt to be incapable of anything other than the most simple form of learning. In truth Itard did not realise that his efforts, far from having failed, had shown the way to functional education for practical use with the mentally deficient. Though Victor had not been converted "to civilisation from savagery" Itard's use of natural and acquired wants to attain educational objectives had established a basis for a new field of educational activity (Doll 1967).

The task of systematising, expanding and applying the ideas of Periere and Itard in practice fell to Edouard Seguin who, attracted to the idea of working with Itard, agreed in 1837 to instruct an idiotic child (Talbot 1967). After a year's guidance from Itard he formed an experimental class in the Salpetriere in Paris. In 1841 he was asked to organise a programme for young idiots in the Bicertre. His success

in this activity was such that his "physiological method" attracted interest in the United Kingdom and the United States. His system of education was firmly grounded in current physiology, humane philosophy, keen observation and practical ingenuity. Founded on the assumption that the brain could only be developed as an integral part of the nervous system it involved the stimulation of the muscles and senses, proceeding in orderly sequences from passive reception to active involvement, from sensation to perception, from gross to refined sensory discriminations, from the known to the unknown and from attention to imitation and thus to spontaneous activity (Doll 1962). While Seguin can be understood as the inheritor of educational practices introduced by Itard, his physiological method differed from that developed by the latter in a number of fundamental ways. Training of the senses was common to both approaches but whereas Itard subjected Victor to repetitions of stimuli assuming that repetition of itself would lead to the development of the appropriate concept Seguin chose to avoid repetition. He preferred instead to introduce material in contexts where comparisons and selection were an integral part of the task. Whereas, for example, Itard proceeded by matching techniques in symbol recognition Seguin presented material as a series. He did not repeat activities but offered carefully graded and progressively more complex material.

As a medical man his teaching design was modelled on medical treatment. This involved diagnosis, prescription, and summary of outcome. Diagnosis comprised general and specific behaviour, in the areas of physical, itellectual and social activity. Educational material and teaching procedures were chosen on the basis of examination and observation. The child's progress at the end of his school days was a matter of record. He insisted that idiocy, like an individual disease, was specific to the individual, though instruction might be given on either an individual or a group basis. Seguin cautioned strongly against the application of any general principle to the specific case of idiocy (Talbot 1967).

Within the United Kingdom development reflecting the innovative physiological methods came comparatively slowly. A school for idiots, of four places, was established in Bath in 1846 by the Misses White (Macgillivray 1962), but the real beginning of educational provision dates from the foundation of an asylum for idiots in 1847 at Park House,

Highgate under the patronage of the Duke of Cambridge and the Duchess of Gloucester. The institution was supported by charitable donations, with education being offered to "idiots" of both sexes, though preference was given to those who were younger and whose handicap was less. The institution removed to Redhill in Surrey in 1855 and became known as Earlswood Asylum. In Scotland Sir John and Lady Ogilvie paid for the construction of an institution for the education of the imbecile on their estate at Baldovan. Opened in 1855, with a physician in charge, treatment and training was supervised by a teacher who had visited schools in Switzerland and London. This institution was later to become Strathmartine Hospital. The same year saw a group of Edinburgh citizens starting the first city institution for defectives in Gayfield Square, under the charge of Dr. and Mrs. David Brodie.

The original circulars for the Gayfield Square institution stated its objects as:

> "Firstly, improvement in general health; secondly, the awakening and development of mental powers by those means which have already been found so effective in similar institutions; thirdly, the employment of educational resources to meet the peculiarities of the pupils; fourthly, in the case of the more advanced pupils, of providing some suitable occupation giving healthy employment at once agreeable and profitable to all their powers, keeping in view such occupations as may fit the pupil for future usefulness and intercourse with society". (Macgillivray 1962).

In the United States interest had been shown in Seguin's work from an early date. A Dr. Townsend from Ohio visited Seguin in Paris in 1840. George Sumner visited the Bicertre training class in 1846 and through the agency of Samuel Howe, was instrumental in obtaining state funds for an experimental class, which opened in 1848 as an experimental school (Talbot 1967). Talbot notes that work in the United States with defective children was developed by men who shared Seguin's ideas and radical posture. In this process, ideological receptivity, the inclination to philanthropy, was bolstered by funds derived from industrial prosperity, which could maintain charitable facilities.

Seguin himself went into voluntary political exile in the United States in 1852. In 1854 he was associated with the opening of a school built expressly for idiots in Syracuse, New York. From that year until his death in 1886 he was a driving force in work with and for retarded children. In the final chapter of his textbook on the education of the retarded he suggested the establishment of an association of institution superintendents which would meet annually to discuss administration, treatment and research. In 1876 in conjunction with a number of influential medical officers Seguin helped found the Association of Medical Officers of American Institutions for Idiots and Feebleminded Persons. The co-operative body so established which elected Seguin as its first president was later to become the American Association on Mental Deficiency (Talbot 1967). It was the general trend within lay as well as medical circles of the time to make few distinctions between forms or degrees of mental deficiency. Esquirol had set out the cardinal differences between mental deficiency and mental abnormality in 1838. The first was presented as an unalterable original lack of intellectual faculties varying in degree of deficit, and the second as a condition in which established faculties had been lost and where recovery might obtain (Goodenough 1949). Both administratively and clinically amentia, a generic term for mental abnormality, and idiocy were widely seen as synonymous terms.

The second innovation stemmed from the interest shown by a number of European physicians in the problems presented by cretinism, which was both widespread and endemic in the High Alps. In this the Swiss Jean Guggenbuhl was most notable establishing an institution in 1841 with the declared aim of caring for and preventing the disease. While Guggenbuhl's approach involved the use of educational, medicinal and hygienic methods in the treatment of that condition he accepted all kinds of defectives at the Abendburg centre near Berne.

The interest shown in his treatment approach contributed to the establishment of special institutions within Europe, the United Kingdom and the United States for mental defectives in general. The very confusion in terminology assisted the general movement toward an optimistic educational approach to deficiency. Kanner reports that one European authority, Troxler, held that cretinism was the underlying feature on all forms of mental defect, subdividing it into four groups of which one was idiocy. Guggenbuhl for his part maintained that those

children who were unresponsive either at home or at school to ordinary instruction and education were mentally weak and therefore on the road to cretinism (Kanner 1967).

In spite of these subtantial conceptual and classificatory difficulties, by the middle of the nineteenth century the principle of special training for the mental defective was well on the way to recognition on an international basis. The general approach embraced a concern for the physical, social and moral well-being of the person and proceeded from the recognition of the highly individual character of mental defect. The educational approach adopted widely in Europe and elsewhere was undertaken by physicians and teachers alike and was based on the physiological methods developed by Seguin and the attention given by Guggenbuhl to nutrition, hygiene and personal health (Heal et al. 1978).

CHAPTER 2

PART 2: EUGENICS AND PESSIMISM

In tracing the growth of interest in mental deficiency across the nineteenth century, whether in the United Kingdom or the United States, attention is inevitably drawn to the way in which changes within the wider society were instrumental in shaping the characterisation given to the subject by lay and expert opinion alike. Sarason and Doris have noted in relation to this that:

> "mental deficiency is a particularly clear instance of the contention that no field of scientific investigation is independent of the larger society in which it is embedded."
> (Sarason and Doris 1969).

These authors caution wisely against reducing the complexity of attitude change to the effect of one simple cause or substituting one theory for another, but nonetheless in relation to the development of psychological theories of mental functioning a pattern of influence can be established with some confidence since the field was in the hands of a few competent men (Boring 1950). In addition the nineteenth century was remarkable for the development of theories which had relevance for the psychological conception of mental deficiency, though deriving from biology, neurology, genetics and medicine (Blacker 1952, Doll 1962, Kanner 1967, Sarason and Doris 1969).

The importance of setting out the basic beliefs about mental deficiency as they crystallised during the last years of the nineteenth century arises because the account offered was part of a general view of the human condition which, unlike many conceptions of that subject, was actually translated into a social policy of a statutory character. As such it endured for almost fifty years affecting the lives of many tens of thousands of persons, and determined the course of mental deficiency provisions in a most precise and characteristic way. For a wide variety of reasons the policy came to be accepted as misconceived, inoperable and in a fundamental sense irrelevant to the purpose for which it was created. One outcome of the policy of custodial care was a widespread reaction to its sterility which led to its eventual

abandonment. A legacy remains in the form of a substantial group of mentally handicapped persons whose early years were shaped by its constraints, a minority of staff similarly experienced in its practice and the fading institutional ethos of the period. Four developments can be noted as having had substantial bearing on the establishment of custodial care, a conception which embodied a host of social concerns and pessimistic practices. The first arose from the biological theory of degeneration of the first half of the nineteenth century and attributed to Benedict Morel (Sarason and Doris 1969). Within the realm of politics little interest had been shown in the question of provision for mentally defectives as a group distinct from the mentally abnormal up to that time. In part this reflected a general lack of concern in mental defect of whatever degree, compounded with substantial confusion in terminology and misunderstanding and fear of the insane with whom the mentally defective were often confused (Jones 1960).

In his review of the management of mental retardation in the United States Doll (1962) marks the period between 1876 and 1890 as a watershed in the way in which the likely outcome of training and education was regarded. He notes that a general toning down took place in the level of optimism expressed at meetings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded Persons and quotes an extract from the Philadelphia Times of the period in which it was announced "From ten to twenty per cent can be rendered self-supporting" to which was added the view that many others could be "more cheaply and humanely cared for in institutions than scattered in the community". In 1878 a school opened in Newark, New York devoted to the custodial care of feebleminded women of child bearing age. Its objective, specified as the elimination of hereditary taint through segregation, embodied the view expressed at an international meeting in London in 1876, at which delegates had reviewed their work with the mentally defective. Representatives from the United States, France, the United Kingdom, Germany, Holland and Jamaica had agreed that segregation at an early age for early training in industrial and agricultural activities was to be recommended, while noting that "A small proportion of idiots and imbeciles may be made self-supporting. Many can be trained to be useful and happy". (Doll 1967). The shift in emphasis and reduced level of expectation about the outcome of education and training was significant and in no sense

fortuitous, but arose in relation to the growth of scientific thought expressed as theories of biological degeneration, of which that propounded by Morel was a notable example. Degeneration theory was concerned with deviations from the normal type of human being and, in the form advanced by him were transmissible by heredity and led to the eventual extinction of those carrying the hereditary stigmata. Deviations included those afflicted with certain physical and psychiatric conditions. The epileptic, the psychotic, the scrofulous, the mentally deficient, the moral deviate and the alcoholic were represented as examples of degenerative heredity. The theory saw the process as affecting the first generation in a mild way involving possibly a labile temperament, in the second the individual might be neurotic, the third psychotic, while the fourth could well consist of idiots who, tending not to reproduce, would lead the line to extinction.

Speculative theories of this kind had been current for some time. Sarason and Doris (1969) refer to an earlier account of the relationship between congenital idiocy and physical degeneration contained in Samuel Howe's 1848 Report to the Governor of Massachusetts Commission. In this it was recorded, in relation to 420 cases of congenital idiocy that information obtained on the condition of 355 progenitors indicated:

> "the immediate progenitors of the unfortunate sufferers had in some way widely departed from the normal condition of health ..... one or the other or both of them were very unhealthy or scrofulous; or they were hereditarily predisposed to affections of the brain causing occasional insanity or they had intermarried with blood relations; or they had been intemperate - or had been guilty of sensual excess which impaired their constitution".

The same report offered the view that the children of drunkards examined were

> "very apt to be feeble in body and weak in mind. Idiots, fools and simpletons are common among the progeny of such persons". (Sarason and Doris 1969).

These authors note that alcoholism featured widely as a favourite hypothesis in degeneration theory and cite Howe's comment that "out of 359 idiots, the condition of whose progenitors was ascertained, 99 were

the children of drunkards" (Howe 1848 in Sarason and Doris 1969). Common to this and later theorising (Tredgold 1908) appear to be the following points. Firstly the presumed hereditary characteristic is polymorphous; that is to say the degenerative tendency expressed itself in many different diseases and in many ways. This postulation allowed widely differing phenomena, such as pulmonary tuberculosis and alcoholism to be understood as examples of "hereditary taint". Secondly, degeneration theory accepted the view that traits acquired during the individual's life time were transmitted to and had influence upon the succeeding generation. Darwin's evolutionary theory allowed a strong case to be made against singling out the weak and unfit for any special consideration since this interfered with natural selective mechanisims in society and burdened succeeding generations with "increasing dead weight". (Sumner 1883 cited in Sarason and Doris 1969).

In his account of the role played by Galton in the development of the science of eugenics in his long and fruitful life Blacker (1956) quotes from correspondence addressed by Galton to Darwin some ten years after the publication of his theory of evolution. In this Galton, with the maturity of an educated man of thirty seven, wrote:

> "your book drove away the constraint of my old superstition as if it had been a nightmare and was the first to give me freedom of thought".

Blacker observes that oppressive superstition included the heavy burden of his religious instruction which had left him wretched as a sensitive and deeply conscientious child, through its insistence on the doctrine of original sin. While speculation about the cathartic nature of Galton's appreciation of the theory is not offered by Blacker, from the historical perspective taken by Boring (1950) and the critique offered by Sarason and Doris (1969) Galton's work has a two fold implication for the development of attitudes to the mentally defective in the second half of the nineteenth century. His thought was most important for the attempt is made to apply the key concepts of evolutionary theory, chance variation, hereditary transmission of variation and natural selection to mankind. His response to the theory was to devote the greater part of his working life to the attempt to apply it in a functional way (Blacker 1956). The Origin of Species

(Darwin 1859) systematised the patient observations of many years within a disarmingly simple, plausible and radical theory. Individuals of all animal species provided evidence of spontaneous variation. The practice of selective breeding in lower animals demonstrated that desirable characteristics could be emphasised across generations. Heredity provides the biological mechanism for this process giving rise to variations within all species. By analogy with selective breeding Nature could be seen as naturally selecting those members of a species best fitted to adapt to their environmental circumstances. Gradual change in environments would lead to gradually differing forms. Species were therefore not discrete as supposed but would grow to form continuous orders. The process of natural selection was continuous and applied to all species. Eugenics, as Galton advanced the study, recognised that civilisation inevitably alters the conditions of natural selection and, for mankind to continue along the evolutionary pathway, a conscious and deliberate attempt has to be made to ensure that those best suited to assist this process attained a differentially higher rate of reproduction than those least fitted to do so. Eugenics therefore offered a view of evolution not as a process of descent, but rather as one of ascent. Having progressed to the point of conscious recognition of the fundamental factors at work, civilised man was duty bound to overcome the obstacle presented by the accumulation of the unfit which occurred as an outgrowth of humane and civilising activity, through the practice of positive eugenics. As a science eugenics could not be separated from strong social obligations and moral responsibility for the continuing maintainance of civilisation.

Within the science Galton intended activities such as the study of human qualities, both physical and mental, their mode and degree of transmission and their implication for the future improvement of the race, as well as their distribution within the population as a whole. Given that such a science bore fruit the outcome depended upon finding a means of social control which would allow desirable improving qualities to be propagated and impairing ones checked. As Galton saw the matter eugenics contained elements of science, religion and social practice.

> "There are three stages to be passed through. Firstly it must be made familiar as an academic question until its exact importance has been understood and accepted as a fact; secondly it must be recognised as a subject whose practical development deserves serious consideration and thirdly it must be introduced into the national consciousness as a new religion".
>
> (Galton 1909 in Blacker 1956).

Galton's first major work was Hereditary Genius (1869). It exercised a great effect on its readership and was taken as proof that intellectual traits are transmitted through heredity (Sarason and Doris 1969). In brief it was concerned, through the medium of family pedigree study, with variation in individual ability in humans, with particular reference to intellectual powers and the notable fact that exceptionally great ability tends to run in families. In Galton's words "characteristics cling to families". The great innovation provided by the synthesis of measurement of individual differences and evolutionary theory was to introduce the view that intellectual ability is a variable in the process of natural selection and that intelligence is an evolutionary product. Galton rejected the view that the weak and unfit should be destroyed advocating the dictum of positive eugenics.

> "I shall argue that the wisest policy is that which results in retarding the average age of marriage and in hastening it among the vigorous classes, whereas most unhappily for us the influence of numerous social agencies has been strongly and banefully exerted in precisely the opposite direction". (Galton 1869).

While Galton occupies a founding place in the history and development of the psychology of individual differences (Boring 1950) his influence as innovator in this field of enquiry and tireless advocate of the moral necessity for action on the basis of factual evidence was matched by the contribution he made to the social evaluation and interpretation of measurement outcome itself. His Inquiries into Human Faculty and its Development (Galton 1883) pursued the idea of inherited differences in ability in individuals, families and races and reinforced the view that inherited factors limited the extent to which an individual could develop.

The cultural impact of the theory of evolution on mental deficiency was profound. The concept of natural selection as a continuing process operating on the variations of differing degrees of individual fitness to survive meshed naturally with degeneration theory as a causal account of these essential differences. Sarason and Doris observe that Samuel Howe's view of mental deficiency did not preclude the utility of training nor lead inevitably to pessimism. Theories of heredity of that earlier period allowed for the transmission of acquired characteristics; improving environmental influences could well reverse degenerative processes. The work of Seguin and his advocacy of person specific educational programmes provided a recognition of a common bond of humane concern, existing independently of degrees of mental defect.

Darwinism, as the second broad formative influence on the concept of mental deficiency in the nineteenth century, set the whole question in a wider context. Those bearingthe stigmata of degeneration were logically regarded as those for whom natural selection offered no place in the continuing struggle for existence. Sarason and Doris characterise the popular view of natural selection as social darwinism. In this it was widely accepted that society operated on the same principle as Nature itself; singling out its weakest members for special consideration interferred with natural selective processess and burdened succeeding generations with "increasing dead weight". (Sumner in Sarason and Doris 1969).

In their review of the origin and development of eugenics in the USA in the second half of the nineteenth century these authors trace the rapid social changes associated with urbanisation, industrialisation and immigration and suggest that these factors provided the conditions in which the eugenicist's view of society could gain in importance. As in the United Kingdom an increasing number of physicians specialised in working with the feebleminded. The old order of charitable provision was replaced by specialised institutions. Specialists formed organisations and funded journals which influenced public opinion. The consensus grew that familial factors in mental retardation and associated degenerative phenomena exercised a far greater influence on the reported incidence of pauperism, prostitution, drunkenness, crime and violence among the feebleminded than training or education could ever have. The demand for custodial care of feebleminded children

was a recurrent theme at the annual address of the medical officers of the American Institution for Idiotic and Feebleminded Persons.

Within the biological sciences the earlier view of the heritable nature of acquired characteristics was replaced by that of the continuity of "germ plasm". The rediscovery of Mendell's theory of heredity with its potential for the exact prediction of the distribution of characteristics came at a time of advance in medicine. Langdon Down had presented the clinical picture of Mongolism in 1866, confirmed in 1875 by Fraser and Mitchell in Edinburgh. Down had affirmed that the best classification of idiocy, the one which would most assist in prognosis and treatment, was that based on etiology.

Within mental deficiency an increasing number of specific conditions with differing pathology and etiology were established. Bourneville described the entity later known as tuberous schlerosis in 1880. Tay and Sachs published their study of amaurotic familial idiocy in 1887.

Weismann (1892) argued against the transmission of acquired characteristics, preparing the way for the integration of discoveries from the study of chromosomes with Mendel's principles of hereditary transmission of unit characters. Tredgold as an influential figure in the specialist field of mental deficiency took issue with the view that the germ plasm remained unaltered by environmental factors.

> "it cannot be questioned that the germinal plasm shares in those alterations of the bodily protoplasm which result from disease and environment ..... The environment of today will become the heredity of tomorrow and the statement that the sins of the fathers are visited upon the children unto the third and fourth generation is an undoubted and important truth". (Tredgold 1914).

Despite such differences of view the broad trend of change was towards an ever increasing appreciation of the social problem of mental deficiency. The tone of the authors of the period between 1900 and 1914 was sombre in consideration of the likely course of events (Dawson 1910, Goddard 1914). Medical authorities observed and noted "stigmata", related stigmata to heredity and set heredity within a theoretical framework of degeneration (Lapage 1911, Tredgold 1914).

The view from a wide cross section of sources cohered to form the broad consensus later characterised as the threat of national degeneracy (O'Connor and Tizard 1956). Very similar eugenic views had grown up on both sides of the Atlantic. The American Breeders Association established in 1903 provided a forum for geneticists, biologists, administrators of institutions for the defective and those informed persons concerned with the miserable and harrowing circumstances of the defective. In the United Kingdom the Eugenics Society had a similar function as a meeting place for those persons concerned with social reform for the mentally defective. Galton's views changed between 1901 and 1908 (Blacker 1956). At the turn of the century he emphasised the importance of positive eugenics during his Huxley lecture; at the later date he recorded:

> "I think that stern compulsion ought to be exerted to prevent the free propagation of the stock of those affected with lunacy, feeblemindedness, habitual criminality and pauperism".

Blacker attributes the shift in Galton's thinking to the publication of the Report of the Royal Commission on the Feebleminded in 1908. Among expert witnesses Tredgold had emphasised the role of heredity:

> "..... in 90 per cent of patients suffering from mental defect the condition is the result of a morbid state of the ancestors which so impairs the vital powers of the embryo that full and perfect development cannot take place..... Amentia is not only hereditary it is also the final expression of a progressive neuropathic degeneration". (Report of the Royal Commission 1908).

Within the United Kingdom the preoccupation of the eugenic movement with differentially higher birth rates, heredity and degenerative traits was exemplified in the view offered by Tredgold in 1909. In this he declared that the doctrine of national degeneracy was

> "no myth but a very serious reality" continuing "I would lay it down as a general principle that as soon as a nation reaches that stage of civilisation in which medical knowledge and humanitarian sentiment operate to prolong the existence of the unfit then it becomes imperative upon that nation to devise such

> social laws as will ensure that those unfit do not propagate their kind". (Tredgold 1909).

As the tide of opinion grew in relation to the necessity for action to contain the propensities of the mentally defective added weight came from studies deriving from the new emergent activity of mental testing. Within the United Kingdom the eugenic movement had grown in influence without particular reference to the ascertainment of mental deficiency through the use of tests of mental functioning. Lapage offers no reference to mental testing in his glossary of terms, while amentia was defined as resulting from incomplete and irregular development of the nerve cells of the brain (Lapage 1911).

In all the tide of events moved steadily toward the identification of mental deficiency as an urgent social problem requiring resolute action if the continuity of national life were to be maintained.

CHAPTER 2

PART 3: SOCIAL PROVISION FOR THE MENTAL DEFECTIVE 1845-1960

During the course of the nineteenth century a number of developments occurred in both permissive and statutory legislation having a bearing on the mentally deficient. Jones (1960) has reviewed these changes and traced the pattern of events which led to custodial provision. For the most part provision for the mentally defective was linked in law, with that for the abnormal, while that little which applied uniquely to the mentally defective was short lived and ineffective in outcome.

Prior to 1845 there was no single code of treatment for the insane. While the term insane had largely replaced that of lunatic no distinction was made between the mentally abnormal and the mentally defective either in administration or in treatment. Existing provision took the form of charitable hospitals such as the Bethlem in London, controlled solely by their trustees, private asylums, the former mad-houses inspected by magistrates in the provinces, and the Commissioners in Lunacy in London, and the county asylums managed by committees of magistrates. By 1842 some sixteen of these last had been established under permissive legislation of 1808 and many of the insane were to be found in prisons and workhouses, administered by the criminal code and Poor Law respectively (Jones 1960). In 1842 the Commissioners in Lunacy were empowered to visit all institutions in the country and prepare a report for parliament. In the Lunatics Act of 1845 these powers of inspection were given to the Commissioners on a permanent basis. The Act itself applied to all the insane with the exception of those confined in Bethlem Hospital and those confined privately in their homes. A new form of certification was introduced to guard against collusion between certifying doctors in the case of a private patient. Pauper patients were to be certified by a justice of the peace and the Relieving Officer, with due protection against collusion.

The Lunacy Commission was to have access to new systems of record keeping, detailing admission, diagnosis, restraint or seclusion, discharge, escape, death together with reports from both official and unofficial bodies. The function of the Commission was two fold. Firstly to set minimum standards, and secondly to encourage higher

standards by disseminating new ideas about treatment methods. Jones notes that by 1845 those doctors who administered the county asylums were rising in prestige. Although no formal training was available visits by doctors to each other's asylums were popular. The new ideas included the abandonment of restraint, intimidation and strait-jacket use, and the introduction of "moral management" pioneered by William Tuke, himself a layman. Moral management involved the use of non-restraint and the treatment of the individual by social means, simple group activities and educational classes. All these changes stood in marked contrast to the practices of the earlier years of the century. Then cases of illegal detention, in secret and degrading circumstances, had come to light. Rumour and gossip had flourished in an atmosphere in which the mad-house was seen as a place terrible enough to drive a sane man mad.

By the time of the passing of the 1845 Act the worst abuses had been corrected but public opinion, aroused by the evils of illegal detention, refused to be quieted. Three choices lay before the reform movement in the development of social provision (Jones 1960). The first emphasised human relations and was typified by the social and humanitarian procedures described as moral management. The second was concerned with physical treatment and wished to remove the distinction between the mentally and physically ill. The third was preoccupied with procedure and was caught up with the development of legal safe-guards against illegal or incorrect certification of the sane, even though delay in treatment might render the individual incurable. The mainspring of this last preoccupation was not public concern at the way in which the insane lived, nor with mental abnormality itself, but lay rather in fear. Lunacy reform came to mean, the protection of the sane against the conditions in which the insane lived. The Alleged Lunatics Friend Society founded in 1845 was formed.

> "for the protection of the British subject from unjust confinement on the grounds of mental derangement and for the redress of persons so confined". (Jones 1960).

This body campaigned vigorously against the provisions of the 1845 Act, directing strong criticism against the Commissioners' acknowledged difficulties in supervising the asylums and raising the possibility of

illegal certification.

The asylum doctors formed another pressure group. In 1853 the medical superintendent of Devon County Asylum founded the Asylum Journal. A year later this became the Asylum Journal of Mental Science and in its sixth year was re-entitled the Journal of Mental Science. It functioned as the official organ for the Association of Medical Officers of Asylums and Hospitals for the Insane. This Association changed its title to the Medico-Psychological Association in 1861. Jones notes that the association was much concerned with terminology; the medical officers saw themselves involved in "administrative psychiatry" or as "psychological physicians". Their subject of study was described variously as "medical psychology" and "physiological psychology". With the enactment of the Medical Registration Act of 1858, which established a register of doctors who had passed prescribed examinations, the new profession was strong enough to offer a rebuff to lay intervention.

> "Insanity is purely a disease of the brain".
> wrote the editor in the second issue and
> "The physician is now the responsible guardian of the lunatic and must ever remain so".
> (Jones 1960).

The issue of the liberty of the subject re-emerged in the House of Commons in 1877 when a further Select Committee was established to inquire into the operation of the Lunacy Laws with regard to violations of personal liberty. Shaftesbury defended the cause of easy admission and early treatment, criticising strongly the view that only those acquainted with lunacy should sign the admission certificates after lengthy and detailed enquiry. Evidently the Committee were won over by the force of Shaftesbury's case, finding little wrong with the system as it operated. In the same year however, the Lancet sponsored a fact finding commission into The Care and Cure of the Insane. A number of public and private asylums were visited. The Commission noted that the worst abuses of the mad-houses had been abolished but commented upon an air of marking time, of humdrum activity that was to be found in certain instances. In others lack of the personal touch, lack of money, cramped, draughty, meagre and defective accommodation were

observed. The mood of popular opinion was still one of fear and hostility. Jones quotes a leading article in The Times of April 5th 1877 which advanced the opinion:

> "if lunacy continues to increase as at present, the insane will be in the majority and freeing themselves will put the sane in asylum".

Within the field of interest for the identified mentally defective a similar shift of opinion had taken place in respect of those then known as "improvable idiots". A sub-committee of the Charity Organisation Society, a body founded in 1868 to co-ordinate charitable efforts of all kinds, met in the winter of 1876-77 to consider the suggestion by an influential member, Sir Charles Trevelyan, that Government should be encouraged to intervene in the provision for those he termed the feebleminded. Unlike earlier ideas of the effect of education the sub-committee's report expressed a severely limited view of the outcome of instruction, stating that a large proportion of cases, having improved, could go no further and in many cases could regress. Possibly two percent could be trained to the point of being socially and financially self-supporting though all could improve to some measure given an appropriate setting.

The sub-committee were of the view that, as had been the case with lunatic asylums, a grant of four shillings should be made to local authorities, from the Consolidated Fund, to allow the establishment of Idiot asylums. The report noted that the existing Lunacy Acts were wide enough in scope to allow local authorities to build such institutions but that in all probability little or no action would be taken until fresh legislation had been introduced. The Society estimated that provision was required for 49,041 idiots, imbeciles and harmless lunatics and recommended the establishment of schools as well as asylums in every large centre or group of counties (Lapage 1911).

The Government took up the Society's report and an Idiots Bill passed both houses without controversy, becoming law in 1886. Within the Act the mentally defective person subject to it was identified as "an idiot or imbecile from an early age". The Act permitted local authorities to build institutions for this category of person and stated specifically that the terms idiot and imbecile did not include lunatics. In the event the Act seems to have been of little consequence

or effect, being superseded by the Lunacy Act of 1890. The 1890 Lunacy Act embodied a legal resolution of the conflicting issues of personal liberty, early treatment and the professional vulnerability of the asylum doctors who had operated the earlier legislation. Mental deficiency was again gathered up as part of provision intended for the mentally abnormal. Jones offers the dry comment on its legal intricacies which provided for almost all known contingencies.

> "Nothing was left to chance and very little for future development". (Jones 1960).

In 1890 the Charity Organisation Society again appointed a special committee to consider and report on "the public and charitable provision of the feebleminded, epileptic, deformed and crippled". This Committee issued a report in 1892, based on the examination of a large number of school children by a Dr. Warner and others, finding that approximately one percent required special care and training.

In 1895 a Committee, under the auspices of the British Medical Association, the Charity Organisation Society of London, the British Association for the Advancement of Science, together with the International Congress of Hygiene and Demography and other bodies, issued a Report on the Scientific Study of the Mental and Physical Conditions of Childhood with particular reference to Defective Children (Lapage 1911). Considerable public interest was aroused by these reports leading to the appointment of a Departmental Committee on Defective and Epileptic Children in 1896 whose report in 1898 concluded among other matters that:

> "children exist who, on the one hand are too feebleminded to be properly taught by ordinary methods in ordinary elementary schools, and on the other hand are not so feebleminded as to be imbecile or idiotic. These feebleminded children exist as a distinct class from imbeciles, they are not certified as imbeciles, they differ both from ordinary children and from imbeciles in the treatment they require during their school life".

The Elementary Education (Defective and Epileptic Children) Act of 1899 empowered authorities, without compulsion, to establish special classes for defective children in some of their schools. Lapage comments that

the establishment of these Special Day Schools revealed very large numbers of weakminded children who were without special provision. In 1896 the National Association for Promoting the Welfare of the Feebleminded was established, followed in 1898 by the Lancashire and CheshireSociety for the Permanent Care of the Feebleminded.

Two women exercised great influence through these organisations. Miss Mary Dendy "had been attracted to the large number of obviously weakminded children" in the Manchester schools (Lapage 1911) and had investigated what was likely to happen to them on leaving. This had convinced her that the work done in the special schools would be largely wasted and nullified if the children discharged at the age of sixteen became parents of children similar to themselves (Lapage 1911). As Honorary Secretary of the Lancashire Association she was instrumental in establishing a colony at Sandlebridge near Manchester. The Society itself was based on the view that only life-long care of the feeble-minded was a satisfactory solution to the problem they presented. In her description of the colony Dendy wrote:

> ".....it was determined from the beginning that only Permanent Care could be really efficacious in stemming the great evil of feebleness of mind in our country. The idea at first met with great opposition; no other Society was willing to undertake it..... Happily it is now universally regarded as the proper method of dealing with the weak in intellect".
>
> (Dendy in Lapage 1911).

Mrs. Hume Pinsent was Chairman of the Special Schools Sub-Committee of the Birmingham Education Committee established in 1894. Her vigorous advocacy had led to a sharp increase in the number of children certified for education in those schools while her interest in provision led her to campaign for state intervention in the problem of the feebleminded.

Lapage records that in April 1903 a petition signed by 140 influential persons "especially interested in the subject" was sent to the Home Secretary pleading for the appointment of a Royal Commission "to consider and report upon the existing provision for Idiots, Imbeciles and the Defective or Feebleminded and to make recommendatoins". This plea was followed by the appointment in 1904 of the Royal Commission on the Care and Control of the Feebleminded. The commission's members included

the Chairman of the National Association for the Care of the Feebleminded, Mrs. Hume Pinsent and the Secretary of the Charity Organisation Society among others. The Commissioners were at first directed to consider the methods of dealing with idiots, epileptics, imbeciles, feebleminded or defective persons not certified under the Lunacy Laws. The scope of the enquiry was later widened and they were directed to enquire into the Lunacy Laws in order to suggest some scheme which would provide care for all persons of deficient intellect whether lunatics, dements, idiots, imbeciles, epileptics or feeble-minded. The Commissioners later recommended that it was entirely undesirable that lunatics should be treated in the same institution as the mentally defective.

The Commissioners examined 248 witnesses, obtained information from foreign countries and visited American institutions. The proceedings lasted four years and the Report consisted of eight volumes. The subject of the Commissioners' deliberations was the ament "or person who, because their brain is incapable of normal development have never had, and will never have the power of managing themselves or their affairs". (Lapage 1911). In brief the Commission were of the view that life-long care of the feebleminded person, strengthened by legal powers of detention if necessary, was of overriding importance. It was recommended that a Central Board of Control should be established to supervise and protect the mentally defective and that all feebleminded persons should be registered with that central agency.

The Commissioners' complex recommendations were based on four general principles. All mentally defective persons incapable of earning their living independently should receive special protection from the state. The community should be protected from the harm that could arise when feebleminded persons were free to follow their own inclinations, or fell into the hands of the ignorant or unscrupulous. Different grades of mental defect required different types of provision. Mental defectives should be dealt with primarily on the grounds of their mental defect and not because of their poverty, violence or criminality (Lapage 1911).

The report was presented to Parliament in July 1909 though a Mental Defect Bill did not appear until 1912. Vigorous representation on the problem of the feebleminded was conducted by the advocates of custodial care in the intervening period, the Home Office receiving no

less than 800 resolutions on the matter from county councils, borough councils, education authorities and boards of guardians (Jones 1960). In 1912 two private members introduced a Mental Deficiency Bill sponsored by the Eugenics' Society and the National Association for the Care of the Feebleminded. It contained a clause, which was vigorously opposed, prohibiting the marriage of any person judged to be mentally defective. Persons could become subject to be dealt with where it was "felt desirable in the interests of the community that they should be deprived of the opportunity of procreating children" (Hilliard 1965).

This Bill was subsequently withdrawn and a Bill incorporating the recommendations of the Royal Commission was introduced in March 1913. While the much opposed clause prohibiting the marriage of mental defectives had been dropped the Bill was more rigid in other ways. It was no longer possible for voluntary training to be offered. Without exception no one who entered an institution as a certified defective under the Bill could be discharged except with the agreement of the Board of Control. A spirited opposition was mounted against it by Josiah Wedgwood who asserted that the Bill "would put into prison 100,000 people who are at present at liberty" (Jones 1960). Much discussion was given to the definition of mental deficiency. Members were not clear about the distinction between mental deficiency and insanity. Six days were spent on the question of definition; twenty six divisions were taken. The definitions which resulted were not, as the Home Secretary warned, watertight, but they were the best that could be devised in the circumstances (Jones 1960).

The Act came into operation in 1914, though its effects were limited for a number of years. Hilliard (1965) speculates that the earlier Lunacy Act had greater safeguards for individual liberty, which might be the explanation for the increase in the numbers of mental defectives in hospitals for the mentally ill, from an estimated five percent in 1904, to eighteen percent in 1927. It is of note that the report of the Mental Deficiency Committee (The Wood Report 1929) included comment on all aspects of "social inefficiency" in the families of the mental defective of primary amentia type. In this group of persons there would be a far higher proportion of "insane persons, epileptics, paupers, criminals (especially recidivists), unemployables, habitual slum dwellers, prostitutes, inebriates and other social inefficients than would contain a group of families not containing mental defectives.

The practice of mental deficiency from 1913 until 1959 in England and Wales and 1960 for Scotland was regulated by the terms and provisions of this Act. Various relatively minor amendments were enacted over the intervening years. Four categories of mental defect were defined, namely the grades of idiot, imbecile, feeblemindedness and moral imbecility. Idiots were characterised as persons who could not protect themselves from common dangers. Imbeciles were considered to be incapable of managing themselves of their affairs, and in the case of children of being taught to do so. The feebleminded were said to be defective to the point that they required care, supervision and control for their own or others' protection. Moral defectives were identified as having strongly vicious or criminal propensities and required care, supervision and control for the protection of others.

Hilliard (1965) noted that the criteria of mental deficiency were essentially social in character, and that the Wood Report (1929) encouraged those administering the mental deficiency services to use the concept of social inefficiency and ignore the concept of intelligence in the identification of the mentally defective. As a measure of the effect of this legislation in England and Wales, between 1929 and 1952 the number of mental defectives in hospitals and certified institutions increased by over one hundred percent from 24,315 to 56,708 (O'Connor and Tizard 1954) reaching approximately 59,000 by 1959 (Bone, Spain and Martin 1972).

SUMMARY

During the course of the nineteenth century public and private opinion moved progressively from initial enthusiasm to profound pessimism over the utility of educational and social intervention with the mentally defective. The growth of scientific thought generated theories about the nature of man, the function of society and the relationship between inherited abilities and environmental influences in shaping the human condition. Developments in genetics, biology, neurology and medicine affected the characterisation given to the mentally defective, who came increasingly to be seen as the carrier of defective hereditary taint. The condition of the urban poor among whom the mentally defective were found in substantial numbers supported the view that the nation's well-being was under threat from the differentially higher birth rate among defectives. By the turn of the century a consensus had been established that mental deficiency was determined by immutable defective inheritance not least among the newly identified class of feebleminded persons. The social implications of pathological defect were understood in an increasingly alarmist way leading to substantial anxiety about national degeneracy, both in the United Kingdom and United States. The solution offered to this threat involved the practice of custodial segregation of an indefinite duration. Established initially within the charitable sector of provision for the defective this practice was strongly advocated by informed professional opinion. Following a Royal Commission on the Care and Control of the Feebleminded a Bill was enacted which embodied the concept of custodial care within the United Kingdom, which endured as the statutory model for activity with the defective for nearly fifty years.

CHAPTER 3

PART 1: CRITERIA OF MENTAL DEFICIENCY: SOCIAL ADAPTATION

PART 2: CRITERIA OF MENTAL DEFICIENCY: INTELLIGENCE

SUMMARY

CHAPTER 3

PART 1: CRITERIA OF MENTAL DEFICIENCY: SOCIAL ADAPTATION

Hilliard has observed that the primary purpose of the Mental Deficiency Act of 1913 was to secure the detention of the "high-grade" defectives who were not previously subject to it (Hilliard 1965). The effect of the statutory policy of custodial care was to lead to the building of large institutions often for two thousand patients or more, in geographically isolated country areas.

The overall intention was to achieve an adequate level of patient care and to establish a relatively self-supporting colony which would require the minimum of financial expenditure. Within the institution all grades of defect were represented since that achieved the greatest level of economy. The highest level of defectives were able to act as the skill resource for the institution, carrying out higher processes of manufacture in the various industrial shops, the medium-grade patients acted as the general labourers concerned with farm and garden activity of a routine character, while the best of the lower-grade patients could fetch and carry or do very simple work (Wood Report 1929).

As far as the residents of the institution were concerned the Mental Deficiency Committee of the British Medical Association observed that:

> "the problem of undesirable social behaviour is not the same as the problem of mental deficiency".

continuing by way of explanation:

> "There is a continuous curve of variability in mental power and social capacity and behaviour from the idiot to the normal person. The distinction, as legally defined, of the mentally defective from the normal and of the various classes of defectives from one another and even the distinction of the lowest class of normals the 'dull and backward' from those above them is quite arbitrary in the biological or medical sense. The idiot and low-grade imbecile may be said to be devoid of social behaviour. Beyond this type it is not so much the actual social behaviour exhibited as the limitation of their capacity for developing normal social behaviour that is the fundamental distinction".

The Committee then stated that:

> "Broadly speaking the mentally defective class is composed of persons whose social development never proceeds beyond a certain limit, fixed either by environmental agencies which have operated at a very early stage of development or by the material constitution of gametes from whose union they derive".

In the Committee's view the function of a colony was to train in a purposeful way.

> "A modern colony should no longer be regarded as merely for custodial care but its objective is to stabilise, socialise and permit as many as possible to return to the world".

The mechanism for achieving these ends lay in the character of life within the institution.

> "It is an indisputable fact that taking the population of a well-equipped colony as a whole where an energetic staff does everything possible for the patients they become happy, stabilised and industrious. Work is infectious, so is behaviour and a newcomer soon falls into line by emulating good examples". (Berry Report 1932).

Heal (1978) has observed that once established, institutions experienced inexorable pressures to grow, while their original intent, to habilitate the mentally retarded was often frustrated by parent, professional and public pressures to prevent re-entry of the handicapped into the community. Kuhlmann (1940) described the then twenty-five American state institutions of 1900 which had a combined population of over 15,000. Typically they resembled a small town, with administration building, a school with classroom and training equipment and separate dormitories for inmates classified according to age, sex and grade of mental deficiency or physical condition. The institution possessed its own industrial training shops, farm, power and light and heating plant, and was self-contained with kitchens, bakery, laundry and hospital. The hospital was very important and, in addition to providing for the sick, filled a training role for the institution's nurses and

attendants (Quoted by Heal et al. 1978). Essentially the same account would serve to describe the development at Lennox Castle Mental Defectives Institution, opened in 1936. Accommodating some twelve hundred residents the objectives of institutional treatment outlined by the Medical Superintendent were to provide custodial care for life for the lower grades of defect, and to endeavour by treatment and training "to render certain defectives fit to take their place in the general community". (Chislett 1936).

The legislation of 1913 is of historical relevance to the general problem of appropriate provision for the mentally handicapped in two related ways. Firstly the statutory criteria provided a basis for the inadvertent perpetuation of the nihilistic view of the defective current at that time for the succeeding four decades. Those who were required to refer to the legislation were constrained by its terms and provisions to act on a certain view of the mentally defective. Secondly mental deficiency practice, the management of services and settings, such as Lennox Castle, was similarly influenced by the criteria developed for identification and classification which were congruent with statutory definitions.

While the United States and United Kingdom differed in the emphasis given to criteria for the ascertainment of the mentally defective, with the former relying upon measured intelligence and the latter upon social performance, the formative influence of the pre-1914 period was such that expert opinion was as one in predicting substantial social difficulties if no steps to contain the problem were taken (Wallin 1956).

Within the United Kingdom the 1913 legislation was effective, with amendments in 1927, until 1959 in England and Wales and 1960 in Scotland. Administration of the Act rested for many years solely with the medical profession charged with the ascertainment of mental deficiency in children and adults, as well as the organisation and administration of the medical aspects of institutional provision. The limitations and difficulties associated with the use of a single criterion for the identification of mental deficiency have been acknowledged for some considerable time (Burt 1921, Clarke and Clarke 1953, O'Connor and Tizard 1956, British Psychological Society 1958, Heber 1959, 1961, Grossman 1973).

Choice of criteria for the identification of mentally handicapped persons and performances has immediate practical relevance for the

everyday life of the individual, for the evaluation of treatment or training outcome, as well as for the general administration and development of services, such as the estimation of prevalence. With the general recognition and acceptance of mental handicap as a multiply determined phenomenon, representing not one entity but a plurality of complex factors (Tizard 1974), choice of criteria would now seem to be determined more by practical and professional consideration. Indeed with the development and introduction of professions other than medicine into the arena of hospital provision for the handicapped the choice of alternative criteria of handicapped performances has increased substantially, with a consequent measure of confusion over which view is more pertinent to the discharge of services. Differences in practice and confusion in terminology have been identified as the phenomena of a developing field of interest in which concepts are in a state of change and where different disciplines meet (Geloff 1963). Nonetheless statutory definitions of mental deficiency, from 1913 until the present, have embodied the concept of defect or subnormality of mind. Within hospital practice the socio-medical classification scheme offered by A.F. Tredgold equated closely with the socio-legal concepts laid down in the 1913 Act (Geloff 1963). In sum, Tredgold's criteria for the clinical identification of mental defect were established on the basis that defective social adaptation characterised mental deficiency far more effectively than any other criterion.

The concept of arrested or defective mental development was amended by the 1959 Mental Health Act for England and Wales by the introduction of the second necessary criterion of reduced measured intelligence. In practice the evaluation of social performance reflective of mental defect continues to be based, to a substantial degree, upon social adaptation, overriding considerations of measured level of intelligence in many instances (Davies 1980).

It is therefore pertinent to establish what was entailed by Tredgold's criterion of social adaptation as he presented it for those working within the medical frame of reference, as his view on this matter represents possibly the most detailed and comprehensive account of United Kingdom ascertainment practice during the period of custodial care. In one sense the views he expressed belong very definitely to an age now some twenty years past, while the limitations of his system have been recorded elsewhere (Clarke 1958). In another sense however

institutional attitudes and practices do not change as rapidly as might be expected (Gunzburg 1968, Morris 1969, DHSS 1971, Oswin 1978), suggesting that a reflective look at the essentials of his criterion might be instructive for present day practice. Equally it is of note that a substantially revised view of the inferences and implications to be taken from psychometric assessment of measured intelligence with the mentally defective had already been published before the present Act incorporated reduced measured intelligence as a necessary criterion of mental deficiency (Clarke and Clarke 1958).

It would be correct to say that both types of criteria of mental deficiency, as social psychological phenomena, have recognised and acknowledged limitations. Consideration of these throws light on the complexity of the phenomena exemplifying mental handicap and places the appeal for a multi-dimensional approach to classification into an appropriate historical context (Heber 1959, 1961). In addition, with the re-emergence of alternative psychological and educational methods for the habilitation of the mentally handicapped (Thompson and Grabowski 1972, Gelfand and Hartmann 1975, Kuntz et al. 1978) such a consideration underlines the important relationship between measures of handicap and ameliorative responses to it (Fogelmann 1975).

The criterion of social adaptation established by A.F. Tredgold was first published in 1908 and appeared in nine editions, the last in 1956. Tredgold's view was based on a fusion of neurophysiology and psychology, though the criteria he devised were social in effect, and were understood as satisfactory for the purpose of differentiating degrees of mental defect in a very precise way. Mental deficiency or amentia (a, without; mens, mind) as Tredgold preferred to call the phenomenon, is a state where normal mental development has not and will never be attained. Recognising that variation in grade of intellect is the common place, Tredgold raised the question of how and where the standard should be set to decide the least intellectually gifted from the mental defective. The need for such a fine distinction was a reflection of the spirit of the time and the belief that such a distinction was possible on biological grounds. In Tredgold's view the best definition of "normal" mental development was to be found by reference to the degree of intellectual capacity required to allow the individual to perform his duties as a member of society in that position to which he is born (Tredgold 1908). Once the individual is unable to

do this Tredgold's contention was that normal variation had been overstepped; a condition of incomplete development of mind was present (Tredgold 1908).

Amentia was not to be considered as a variation of normal type. The two conditions did not merge into one another: "between the lowest normal and the highest ament a great impassable gulf is fixed". The ament was lacking in that essential - commonsense - without which independent existence is impossible, and moreover "the want can never be supplied". The basis for this assertion lay in the priori view that mental defect arose through irregular and incomplete development of cerebral tissue. Since this could not be changed, neither could mental defect.

In his consideration of mental development Tredgold took the associationist's view emphasising the importance of sensory processes in the formation of impressions and consequent ideas, and credited reason to their comparison. Disorders in the sensory, mental and motor processes were demonstrated by reference to the actual behaviour of children or adults, indicative of particular defect. With mental deficiency equated with incomplete cerebral development Tredgold's position was that;

> "the essence of mental deficiency is that it is incurable and by no special education however elaborate can a case of amentia be raised to the normal standard".

It followed from this therefore that where any children were returned from special class to normal school a clear error of diagnosis had been made, the child not having been mentally defective in the first instance. The same conclusion followed in respect of those children whose mental development was retarded by factors such as inadequate diet or parental neglect, who presenting as defective, later flourished within special education.

Tredgold's 1914 criterion was wider and more flexible in conception. He was as before at pains to establish a practical method to mark off mental defect in a clear unambiguous way. Above the "normal average mass" were grades of intellect rising to genius. Below came persons of inferior intelligence designated "dullards", followed by the "feebleminded" who merged into the imbecile category. Imbecility

merged gradually into idiocy. The lowest level of idiocy was characterised as the negation of intellect. From the pathological point of view, that of cerebral tissue defect, there was no distingtion to be made between idiocy and feeblemindedness, though it was a matter of "considerable and scientific importance" to determine what criterion differentiated the lowest normal intellect from the highest abnormal level.

Tredgold acknowledged the assistance offered to the clinician by the newly available mental tests but held that as intelligence represented only one aspect of mental functioning:

> "the applicability of the methods of the psychological laboratory to the defective mind is limited ..... in the case of the adult the test of conduct as revealed by his life history if often a criterion of far greater value than is his response to laboratory tests".

The process of diagnosis required acuteness of observation, clinical experience and some knowledge of psychology. Knowledge gained from the use of tests depended far more on the examiner's powers of interpretation than on the test itself. The experienced physician found a better estimate of a patient's mental capacity from a short conversation than the inexperienced or unobservant examiner with a whole series of tests.

In the absence of any satisfactory alternative index of mental development Tredgold's solution to the general problem of the diagnostic basis for determining mental deficiency was to argue that some attributes of mind were fundamental in that, in their absence, mankind could not have evolved. If these could be determined then their absence would be indicative of "mental deficiency". His proposal from an evolutionary standpoint was to nominate conscious adaptation to environmental demands as the essential purpose of mind. Accepting that some environments are supportive of those with little capacity to survive, while others are very harsh he held that

> "the ability to maintain existence must be judged with reference to circumstances which normally obtain, not an environment which is grossly exceptional".

The normal lot of mankind involved competition and a struggle for existence. At times this might involve some people in temporary hardship. The criterion of mental deficiency however was that:

> "it is due to inherent causes not to external or social defects; that it is psychological not economic; and there is not as a rule much difficulty in distinguishing between the two. (Tredgold 1914).

Evaluation of the adequacy of the individual's social adaptation rested therefore on the physician's familiarity with his performance in his particular community, this judgement set within the context of a medical evaluation of that person's personal and family history. The essential unifying criterion therefore was that of the judged presence or absence of the capacity to adapt to social and environmental demands, while maintaining personal existence without external support. The matter required a substantial exercise of clinical judgement in respect of the upper grade of feebleminded persons, but if the clinical's conclusion was that this capacity were present then that individual was to be considered "normal" in mental development. Given normality this diagnosis allowed that intelligence and accomplishments could vary widely.

English and English (1958) give two definitions of the term diagnosis. In the first a disease or abnormality is identified from the symptoms present. In this circumstance for example the process of diagnosis might involve the identification of arrested hydrocephalus on the basis of determinable physical abnormalities. In the second an individual is classified on the basis of observed characters, as when someone is judged to be of average height for his age. As mental defect could only be present where cerebral development was defective and as defective cerebral development was undeniably a neurophysiological matter, due in some 80-85 percent of cases to defective inheritance, evaluation of social adequacy fell within the traditional medical activity of diagnosis of clinical entities. The initial postulate excluded consideration of any other conclusion concerning mental deficiency.

Classification as a social process without reference to etiology or prognosis fell in its turn into the category of mis-diagnosis. Determination of mental deficiency rested upon the physician's judgement

experience and shrewd eye for detail. The medical tradition of diagnostic acument which had carried medical science forward up to that time, became involved, through its statutory obligation to administer the Mental Deficiency Act in a social evaluation process where classification rather than diagnosis was the order of the day (Brison 1967). Where no alternative adequate criterial procedures existed, in the absence of unequivocal indices of mental defect, the diagnostic process became heavily weighted with subjective factors. This was particularly so in the upper echelons of the feebleminded. As the Act of 1913 referred to arrested or incomplete development of mind Tredgold's position was clear. An arrested development of any process or department of mind "provided it resulted in social incapacity constitutes mental deficiency". (Tredgold 1952). Doll (1941) similarly insisted on the essential incurability of feeblemindedness and the differential outcome of special education on intellectual retardation as distinct from the symptom complex of feeblemindedness.

In their evidence to the Royal Commission on the law relating to Mental Illness and Mental Deficiency the Royal Medico-Psychological Association (1954) held that while mental deficiency was commonly assessed by psychometric methods it could also be expressed through failure to develop "normal control of the emotions or to achieve the qualities needed for normal social behaviour". (In Clarke and Clarke 1974).

It was hardly surprising therefore that when O'Connor and Tizard (1954) surveyed a 5 percent sample of nearly twelve thousand patients in twelve mental deficiency hospitals near London a representative sub-group of some twenty-five males aged between sixteen and thirty had a mean intelligence quotient of between 74 and 75 points on the Group Progressive Matrices Test. These authors concluded that when these results were considered together with the test results obtained on 360 patients at Darenth Park Hospital (Tizard and O'Connor 1952) more than one half of the adults classified as Feebleminded had intelligence quotients falling above the informal but widely used cut-off point for mental deficiency of IQ 70. The result illustrated the different conclusions reached by clinicians attending first to one criterion and then another, though the lack of identity between measures of social adaptation and intelligence had been established some time before (Doll 1936, 1940, 1953).

In 1952 Tredgold's view on the phenomena of mental deficiency had shifted in a number of ways. In a consideration of the criteria of mental deficiency established in law, he noted that the 1927 Mental Deficiency Act had amended the concept to that of an arrested or incomplete development of mind existing before the age of eighteen years. Tredgold observed that the definition gave no indication of the amount of arrest which had to be present, nor by what criterion this was to be recognised. He concluded that the concept was of arrest sufficient to prevent independent social adaptation and to make for some degree of external care.

The Education Act of 1921 had created an additional criterion to that of social deficiency, namely that of educability for those regarded as educationally defective who were in need of special school provision. Tredgold noted that the presence of an additional criterion had caused confusion about the nature of mental deficiency since many educationally defective children were not socially defective. In brief having considered the educational, intellectual and social criteria of mental deficiency Tredgold found all but the last wanting. Educability as a criterion failed because of the very wide difference in response to school instruction on the one hand and earning a living on the other, which was to be found in a significant number of school failures. Intelligence test score criteria failed on the grounds that many individuals judged on clinical grounds to be defective in social performance were of higher intelligence than many satisfactorily fending for themselves in the everyday world. Only the demonstrated ability of the individual to adapt himself to the environment and maintain an independent existence provided an adequate standard. The social criterion is "the sole criterion which the community can justly impose". The most socially acceptable performance of an individual "is to conform to the accepted standards of the community to which he belongs". This led to an extremely relative standard of social adequacy.

> "It is irrelevant if these standards are unacceptable to other groups or even to a wider community of which that group is part. In short in a criminal group it may be a sign of health to be equally criminal. The social criterion also has its limitations".
>
> (Tredgold and Soddy 1956).

These authors acknowledged that mental deficiency was far from being a single clinical entity. Mental deficiency was seen as mainly a legal and social concept. The view was maintained however that all aments suffer from an arrested or incomplete development of mind resulting in social incapacity. Arrest it was conceded:

> "may be due to many different causes and may assume many different forms".
> (Tredgold and Soddy 1956).

Clarke observes that Tredgold failed to recognise that reliance upon social criteria was as arbitrary as the delineation of mental deficiency by reference to some intelligence quotient value, while having the additional disadvantage of being without any population norms as reference:

> "subjective judgements of the psychological qualities of others are notoriously unreliable".
> (Clarke 1958).

It is worth noting at this juncture that the climate of opinion about the nature and personal impact of mental deficiency had been moving toward a less rigid evaluation of outcome for the identified defective over a number of years. This change had come about in part through a more detailed and systematic appreciation of some of the factors involved in the process of social adaptation, whether understood as the individual's long term performance in life, or more closely in respect of the mentally handicapped person's capacity to acquire skills when the opportunity to do so arose. In effect the result of a limited number of studies carried out by research psychologists had rekindled an interest in individual performance which among other outcomes went some considerable way, within the United Kingdom mental deficiency service, toward restating a basic truth which had been lost for many years. Samuel Howe had warned against the misuse of classification in these terms when considering a system for retardates involving the categories of simpletons, fools and idiots.

> "This classification assumes that the subjects of it are not persons absolutely devoid of mind but merely persons of feeblemind; that the idiot proper is the most feeble, the

> the simpleton the least so. It is important that this principle should be kept in view so that the great advantage of classification may be had without the disadvantages that sometimes attend it. Nature provides individual men and not classes. Putting men into a class is too apt to put them into a caste; sometimes even it puts them out of the pale of humanity". (Howe 1850).

Thus the difficulty associated with diagnosis of a categorical character, in which individuals were placed in one or another grade of presumed mental defect, was the tendency to assume an homogeneity of performance for the individual in accord with the description used to identify the category to which he had been allocated. Lewis (1929) quoted in Penrose (1949), Tredgold and Soddy (1956) and Clarke (1958) set the tone for the likely performance to be anticipated by referring to the characteristics of the idiot, imbecile and feebleminded grade. Thus the imbecile grade contained individuals capable only of simple routine tasks who were:

> "incapable not only of earning an independent living but even of contributing materially to their own support".

Commenting upon this assertion Clarke (1958) was able to state that such an assessment of future performance was unduly pessimistic.

From 1950 onwards a series of studies in mental deficiency had been reported by psychologists working with the Medical Research Council's Social Psychiatry Unit. These had examined such questions as the employment prospects for the feebleminded, provision of training opportunities and the performance of imbecile men under a variety of conditions in workshop settings. As far as the United Kingdom mental deficiency hospital service was concerned these studies may be understood as seminal in effect in that they were able to raise doubts about existing practices and called accepted attitudes and expectations into question.

Tizard and O'Connor in two influential papers (1950 I, II) reviewed studies of the employment history of high grade defectives in the United States and United Kingdom. Reference was made to follow-up studies of defectives in the open employment market pre and post 1939 as well

as to the relationship between stability, motor and mechanical ability and future employability. The authors concluded by stating that there was much evidence showing that many defectives were able to take their place in society after a period of training, though little was known about the type of training best suited to that purpose. A study by Tizard and O'Connor (1952) showed hopeful discharge prospects for the feebleminded given adequate situational support, appropriate work and incentives. Specifically training methods were criticised as providing occupation for patients rather than training for employment. Work was most often pursued in the absence of incentives. They concluded that probably over half of the hospitalised defectives were high grade patients of whom a substantial proportion would be young, trainable adults and adolescents. These persons were good prospects for eventual discharge. Three important points were noted in relation to the employability of the feebleminded. Firstly the use of tests to predict whether a patient should be tried on daily licence was of doubtful value. In view of this they considered that all patients should be given an opportunity to work outside the hospital, wherever possible. Secondly feebleminded patients were capable of carrying out routine, repetitive industrial work. Thirdly either strict or friendly supervision obtained better results than did a laisser-faire approach. Their considered view was that the task for occupational psychology was not selection but training, motivation and supervision.

While these conclusions were of immediate relevance to the capacity of the feebleminded to adapt to social demands the relationship between performance and incentive led to studies with the imbecile grade of defective. Gordon, O'Connor and Tizard (1954, 1955) found that in a simple task involving manual effort, imbeciles responded to incentives in an orderly and predictable way not unlike that found in normals. These authors noted that imbeciles were capable to sustained effort for a period of an hour irrespective of the level of achievement or relative measured intelligence. Tizard and Loos (1954) investigated the way in which six imbeciles learned the form-boards of the Minnesota Spatial Relations Test. All showed rapid improvement and considerable transfer of learning. Retest after one month showed substantial retention. The authors concluded that initial score gave little idea of later performance. Loos and Tizard (1955) investigated the question

of whether young imbeciles of medium grade could be taught to carry out a simple industrial task sufficiently well to allow them to be employed on it. Using six young men they found that after two weeks experience on a simple industrial task all of the group could carry out their work in a way which exceeded that of feebleminded young men with intelligence quotients some forty points higher.

Clarke and Hermelin (1955) examined the work performance of these same patients on three relatively complex manual tasks. The results led them to formulate three principles concerning imbecile work performance. Firstly their initial level compared with that of the normal was very low. Secondly initial level seemed to predict final level either not at all or very poorly at best. Thirdly the main distinction between performance of imbeciles and persons of much higher intellectual level was not so much the final level of achievement as the time taken to reach that level. The authors concluded that to take the imbecile at "face value" would be to overlook potential for improvement. Description of a person in terms of one or two test quotients or clinical ratings was not of itself enough since such an approach might well overlook differences within the individual. While the measured general intelligence level of a person of severe mental handicap might be low it would often be possible to find some assets that could be developed and improved.

In their publication which summarised the new uncertainty about procedures for identifying mentally defective persons and performances O'Connor and Tizard (1956) noted that the following six aspects of the individual's present state were considered relevant:

a) anatomical and physiological;
b) intellectual;
c) educational;
d) social (social competence);
e) occupational;
f) temperamental or moral

Due consideration should be given to historical and family circumstances, which involved the socio-economic status and occupational competence of other family members as well as the individual's own developmental and educational history.

> "For a diagnosis of mental deficiency to be made the defect must have been made at birth of during childhood or adolescence".

These authors noted that the insistence, by some writers on the "incurable" nature of the condition appeared for diagnostic purposes to be misleading and superfluous.

Discussing the evidence for social adjustment in the institutionalised population O'Connor and Tizard noted the relationship between full employment and the development of community provision. In all, their review of studies indicated that, the majority of feebleminded patients made a "tolerably good" social adjustment in the community. Selection for such placement on the basis of psychometric tests did not appear practicable. Firstly, prediction was uncertain because social circumstances changed continuously in the community and secondly predictive validity based on the assessment qualities assumed that individuals:

> "do not change in certain cognitive, conative or affective aspects of their measureable constitution. Our studies however suggest that such changes do take place in qualities of personality. They would seem to be more variable than general cognitive or specific cognitive and motor variables". (O'Connor and Tizard).

They concluded that the only proper course was to make employment available to all the hospitalised feebleminded.

Baller reviewed studies of the social adjustment of mentally retarded persons in the United States (Baller 1936, Charles 1953, Miller 1965) in which a substantial cohort had been followed up over many years (Baller et al. 1967). This author noted that these studies of the social adjustment in the mentally retarded had stressed three areas of concern. Firstly attempts had been made to clarify and develop terminology facilitating a positive perspective of the intellectually subnormal person. Secondly attempts had been made to study and promote social adjustment of the mentally retarded. Thirdly interest had focussed on the vocational adjustment problems of these persons. While Baller (1967) noted that each investigator used terminology of mental deficiency in an idiosyncratic way the social adjustment of mentally deficient persons presented a generally hopeful picture. It was

necessary however to establish realistic goals, adequate educational opportunities , realistic parental co-operation and adequate community help to ensure good results.

The surviving group members in mid-life were a more stable group functioning at a higher social, physical and intellectual level than previously. Baller noted that this optimistic picture had to be heavily qualified in that the group verged on being social inferiors and in some cases virtual social outcasts in relation to the general population, a possible outcome stressed also by Gunzburg (1968, 1973). Moreover one measure such as intelligence test score could not of itself adequately describe a person as mentally deficient, retarded or otherwise handicapped. Even a classification using several criteria seemed to group individuals incorrectly fairly often. While recognising that this did not argue for the cessation of classification with the mentally retarded, but appealed rather for more reliable and accurate measurement, Miller stated that a better understanding of the sub-normal individual could be obtained by regarding him as an individual interacting with his perceptual environment, and by avoiding regarding him as one of a mass within a single classification.

Referring to the difficulties attaching to the choice of appropriate criteria for the evaluation of social adjustment of those identified as mentally retarded Goldstein (1964) observed that, since socio-economic factors appeared to play a crucial role in their adjustment, researchers might better compare the social performance of the retarded with samples of non-retarded drawn from the same contemporary milieu. The training and placement programmes carried out in institutions had led to attempts to differentiate those who, on the basis of their predicted ability, could fit adequately into society. Studies of characteristics and psychometric patterns of successful and unsuccessful retarded adults had not produced selection techniques any better than clinical impressions of hospital and special school staff.

In his discussion of the relationship between the traditional grades of defect, intelligence ranges, educability and social performance Tizard (1964) drew attention to the fact that classification by grade has no reference to etiology or abnormality of functioning of the higher nervous processes. Classification by grade was a crude functional classification in terms of gravity of mental handicap. Educationally sub-normal school children of IQ's ranging from 50-70 points only qualified for the

designation of mental sub-normality, if in addition they presented with management problems of such severity as to render them unsuitable for education. Educationally sub-normal children who at adulthood could not live their life without supervision qualified as "mentally sub-normal" as the 1959 Act designated them.

The lower grades of deficiency, the former categories of idiocy and imbecility could be defined in Tizard's view for practical reasons by reference to degree of intellectual defect. The joint behavioural definition of grade of defect and intellectual level provided an imprecise diagnosis of mental defect. The assessment of prevalence by grade of defect was subject to substantial error, which in the case of mild sub-normality produced very unstable estimates (Tizard 1964).

CHAPTER 3

PART 2: CRITERIA OF MENTAL DEFICIENCY: INTELLIGENCE

No gross misrepresentation would be involved in stating that mental deficiency is most widely understood through its relationship to reduced measured intelligence. The evolution of the concept of mental deficiency has, from the first, been directly associated with then psychology of individual differences, the development of mental testing and the applied use of intellectual criteria deriving from the ubiquitous intelligence test. Prior to the publication of the 1905 Binet Simon Scale mental deficiency had become largely a matter for medical science with substantial published evidence on the nature and character of the clinical grades of idiocy and imbecility. With the widespread introduction of public education in the second half of the nineteenth century a need emerged for ways if differentiating degrees of mental deficiency over and above those already recognised in medio-legal practice (Binet and Simon 1905, Goodenough 1949, Matarazzo 1972).

In her account of the development of the first mental tests Goodenough (1949) reviewed areas of scientific thought and activity which helped create the climate of opinion within which Binet and Simon achieved their original synthesis of ideas. Binet's own thoughts have been translated by Kite and Matarazzo (1972) has drawn upon research by Wolf (1961, 1964, 1966, 1969 a,b) which has clarified the aims and objectives of Binet and his collaborators.

Goodenough (1949) notes that the term intelligence grew in popularity with the writings of such faculty psychologists as Alexander Bain and Hippolyte Taine, who used the term to designate the successful apprehension of facts and their relationships. Their approach provided a useful counter-balance to the structuralist's view that psychology, as a science, should be concerned with the study of sensory processess. The sensory psychologists studied mental functioning at a molecular level; the interest of the faculty psychologists lay in the activity of such facilitating mechanisims as attention, memory and will, which were molar in character and conception. Within the experimental psychology developed in Germany individual differences in subject's reported perceptions were treated as error. Despite the development of procedures to control and standardise experimentation, differences

persisted as the "personal equation" (Weschler 1972). As Goodenough describes this dilemma, the psychophysicist's inability to control this source of variation, pointed to the need for a different approach to the study of mental activity.

Boring (1950) notes that J. McK. Cattell, a former student with Wundt, continued the study of individuals believing, as Galton did, that reaction time provided a reliable measure of intelligence. His paper "Mental Tests and Measurements" (Cattell 1890) followed the line of investigation laid down by Galton (1883) in his study of mental capacity where it had been argued that people vary in intelligence because of differences in their capacity to make fine sensory discriminations. Galton and Cattell saw sensory and motor activity of the simpler kind as aspects of mental activity of which abstract thought was the highest form. They regarded them as "lower and higher rungs of the same ladder" (Goodenough 1949) and believed that a reliable estimate of the latter could be made by measuring the former. Empirical support for this view was offered by the clinical observation that idiots and imbeciles tended to be both slower and clumsier in their movements, appeared relatively insensitive to pain and were limited in their perceptual powers. Galton (1869) had also advanced the opinion that individual differences were inherited.

Wolf (1964) notes that Alfred Binet had originally considered following his father into the medical profession, but had chosen to study law. Following independent study of psychology he worked at the Salpetriere where he had been strongly influenced by Taine's view that all the phenomena of psychology were involved in intellectual functioning, and not simply elementary sensations and associations. Weschler (1972) notes that though Binet held the view the intellectual processes could best be assessed by measures of complex mental functioning, the so called "higher mental processess", two decades elapsed before his appropriate insight into the problem established the 1905 Scale.

In 1895 in collaboration with Victor Henri, Binet published an article which characterised the direction in which they felt mental testing should proceed. The mental test method would in their view:

"henceforth play a certain practical role";

the task for individual psychology was to develop:

> "a series of tests to apply to an individual in order to distinguish him from others and to enable us to deduce general conclusions relative to certain of his habits and faculties".

Binet and Henri saw this as one of psychology's most important practical applications. Four areas of interest were differentiated; the study of races, children, patients and criminals. Clarification of individual differences would therefore have a practical bearing in relation to ethnic, pedagogical, medical, judicial and criminal considerations (Binet and Henri 1895).

Such a study as they projected, would be based on the use of a number of tests, assessing such complex functions or "faculties" as memory, mental imagery, imagination, aesthetic appreciation and force of will. Studies by Sharp (1899) on some of the Binet-Henri tests together with the outcome of his own subsequent research persuaded Binet that the lack of relationship between tests as well as with scholastic outcome pointed to the fundamental error of attempting to study specific faculties. In their follow-up report of 1904 Binet and Henri acknowledged that they had failed to find any relatively brief and useful measure of individual differences. The outcome of an eight years search had not identified a test which would reflect those differences between individuals, so evident to the observer. Their recommendation was to continue with long and systematic observation of the individual (Wolf 1969a).

In 1899 Binet was approached by a physician, Theodore Simon, then working at the Perray-Vaucluse institution for mentally retarded children and adults under its director Dr. Blin. Simon wished to work with Binet and their chance association provided both with the opportunity to gather data on a substantial number of mentally retarded persons. Wolf (1969a) records that Simon provided Binet with the chance to contact another student Damaye who, under Blin's direction, was studying the intellectual processes of mental defectives at Perray-Vaucluse.

The Blin-Damaye Scale published in 1903 contained 20 test items and was intended to differentiate the clinically identified grades of mental deficiency; idiocy, imbecility and moronity (feeblemindedness). Weschler observes that at that period differential diagnosis of mental defective from normal, as well as the further differentiation of degree of deficiency was totally subjective:

> "differences in diagnosis between examiners or one examiner on repeat examination of the same person abounded". (Weschler 1972).

The Blin-Damaye Scale was an oral questionnaire developed with reference to mentally defective, or "morally degenerate" children. The Scale did not allow any comparison to be made of the individual's intellectual development relative to that of his age group. The effect of age on test score was not considered.

The circumstances leading to the eventual definition of the concept of mental age and its assessment by means of one scale are attributed by Wolf (1969a) to Binet's association with a study group known as "La Societe" open to all persons studying normal children. This brought him into contact with influential leaders in education, law, and psychology and thus into the everyday affairs of public education in the city. Under Binet's direction various specialist study groups had been formed and the Society's Commission for Study of the Retarded proposed in 1904 that the Society should insist upon a child receiving a medio-psychological examination before being recommended either for special education or exclusion from school. The Commission also suggested that those diagnosed as educably retarded should be educated in a special class or establishment and that one such special class should be established near the Salpetriere (Wolf 1969b).

By the end of that year the Minister of Public Institution had appointed a Ministerial Commission for the Abnormal, which included Binet and other Society members, to study this matter. The function of the Commission was essentially concerned with the equitable administration of the arrangements for differentiating the different grades of pupil. Binet and Simon published their view of the scientific differentiation of the mentally defective in 1905 in an article which illustrated the character of the problem and set out their resolution of it. Their expressed aim was to reduce the subjective, uncontrolled and haphazard element so apparent in the clinical diagnosis of mental deficiency;

> "the interests of the child demand a more careful method. To be a member of a special class can never be a mark of distinction and such as do not merit it must be spared the record".

Binet and Simon noted that those physicians charged with the diagnosis of mental deficiency appeared to agree on three categories for the classification of subnormal intelligence; idiot for the lowest state, imbecile for the intermediate and moron for that nearest normality with which, they observed, it was so easily confounded. A dilemma arose however in relation to the disagreements between medical diagnoses. Quoting Blin (1902) they observed in relation to defective children sent to Vaucluse Asylum:

> "One child called imbecile in the first certificate is marked idiot in the second, feebleminded in the third and degenerate in the fourth".

Three factors contributed to this state of affairs. Firstly an actual lack of ability on the part of the particular physician concerned. Secondly the absence of a uniform nomenclature. Thirdly the method of examination employed (Binet and Simon 1905).

In their discussion of the different categories and definitions of mental deficiency Binet and Simon noted that even where different practitioners agreed on terminology there might well be great differences in diagnosis of the same child. Each physician had his own subjective view of the boundaries of each category of defect. The cause of this disagreement lay above all in the absence of a systematic examination of the child's symptoms. The fundamental reason for this was to be found in the fact that despite numerous descriptive classificatory schemes of varying complexity:

> "the symptoms characterising the different degrees of mental inferiority are not described in such a way that they can be practically recognised and distinguished".

While practitioners had developed definitions involving observable symptoms such as "motility, locomotion, prehension and speech" to distinguish degrees of mental defect and while degree of difficulty in these areas is associated with degree of mental defect, the important aspect to bear in mind was that mental deficiency was not adduced from an absence of speech or capacity to walk.

> "The child is judged to be an idiot because he is affected in his intellectual development". (Binet and Simon 1905).

Classification schemes based on physical characters, they observed, seem to be concerned with subsidiary matters. They lost sight of the fact that only by a consideration of intelligence could classification be established.

> "a diagnosis of idiocy is therefore a clinical classification to be made by psychological methods",

nothwithstanding the fact that mental deficiency may result from a variety of diseases of the brain (Binet and Simon 1905).

That was not to say the authors stated that physicians were not able, through practice and medical insight, to judge and classify children, but rather to underline how far such empirical procedures are removed from scientific method. As these judgements and classifications rested on subjective processes no physician was able to say by how much a backward child lagged behind a normal one of the same age, while the distinction between slight mental defect and normality which was so elusive and yet of such interest could not be determined by methods of this character.

The Binet-Simon Scale of 1905 comprised 30 separate tests of increasing difficulty:

> "..... starting from the lowest intellectual level that can be observed and ending with that of average normal intelligence. Each group in the series corresponds to a different mental level". (Binet and Simon 1905).

The authors were at pains to establish that this assessment had no reference to etiology or prognosis. They wished to make no attempt to distinguish between acquired or congenital mental defect, nor did they intend to answer the question of whether the retardation was either curable or improvable. The results described the child at the time of testing. The comparison of performance was with normal children of the same age or analogous level. The method of assessment

was intended to reach the individual's "natural intelligence", and to disregard as far as possible the result of instruction of a verbal, literary or scholastic character.

Binet and Simon were of the view that their scale succeeded in this aim:

> "We give him nothing to read, nothing to write and submit him to no test in which he might succeed by means of rote learning. In fact we do not even notice his inability to read if a case occurs. It is simply the level of his natural intelligence which is taken into account". (Binet and Simon 1905).

The thirty test items were in an ascending order of difficulty determined by reference to some 50 normal school children of "average intelligence" nominated by their teachers and representing three ages, seven, nine and eleven. Tabulation of item outcome allowed the performance levels of some fifty subnormal children from the Salpetriere representing the three grades of defect to be established.

The scale was intended to be a preliminary instrument for future development. The authors' description of it gave no precise way of obtaining a total score. Mental defect was provisionally limited on their account to performance attained by twelve year old children. The ceiling performance of those judged moron fell short of the level of abstract thought represented by the items at that level. Idiocy was represented by aptitudes up to that of the normal two year old. Imbecility embraced the range of aptitudes from years two to five, while moronity ranged from five upwards. The scale yielded an approximate index of intellectual development.

The scale was published again in 1908 with a number of additions and modifications though the authors were at some pains to represent its continuing incomplete nature. No hesitation attached however to their claim that the scale measured "uncultured intelligence". More than three hundred children ranging in age from three to thirteen had been examined on the scale, and the concept of mental age had been introduced by reference to the majority of children at each age level who could pass the different items specified for that year. Subnormality within the school setting was arbitrarily set as a level of performance which fell three years behind that of the child's age group, provided that normal instruction had been received up to that point.

Their principal conclusion was that the measure allowed a rapid, practical and convenient assessment of intellectual development to take place, allowing the child to be placed either in advance, equal to, or retarded, relative to his age group. A number of practical options were envisaged. The content of teaching could be tailored to the level of the child's development, indeed many engaged in teaching were said to be already putting it to that use. In the authors' opinion though, the most valuable use would be not in its application to normal pupils but rather to those of inferior intelligence especially as the differential diagnosis of mental deficiency in the feebleminded group remained the most difficult problem.

In their consideration of the use of the scale as a criterion for the identification of feeblemindedness Binet and Simon took the view that no fixed a priori cut-off point existed. The most general principle that could be used was that the individual is normal when he is able to conduct himself in life without need of the guardianship of another. The scale had shown that misdiagnosis could occur for example in as many as five out of twenty-five children referred as defective to the Salpetriere, when age related performance was considered. As far as the differentiation of feebleminded adults was concerned, in the authors' view, six or seven tests could be considered as forming the borderline between moronity and the normal state, for the

> "labouring class of Paris and its environs".

They added:

> "We hope then that we are not dangerously precise in admitting that the six preceding tests will apprehend all feebleminded adults; and that that one who can pass the majority of them or at least four is normal ..... however the examination shows only that he has intelligence enough to live outside of an institution and that intelligence may coexist with accentuated instability, or with irresistible impulses, or even with other pathological symptoms grave enough to necessitate his segregation".
>
> (Binet and Simon 1908).

The 1908 scale was the first objective highly practical measure of intellectual functioning. Its objectivity lay in its systematic

age related order of test difficulty and its standard administrative form. Binet and Simon held that a complete assessment of a child involved psychological, pedagogical and medical considerations. As psychologists they insisted upon a standardised examination; as clinicians they maintained as before that the results were informative of the child's present state. No conclusions could be drawn about later developments; the examination produced a sample of intellectual performance, nothing more.

By the time of the appearance of the 1911 revision, the earlier versions of the scale had been published in many countries. Henry Goddard Director of the Training School at Vineland New Jersey travelled to France in 1908 where he learned of the earlier tests developed by Binet. Following publication of the age graded scale in 1908 Goddard carried out trials into its classification use with the children at Vineland. In 1910 a complete translation appeared, followed by a report on its application to some 400 Vineland residents. Subsequently the American version was given to some 2,000 children in the state school system which showed not only the difference between normal and feebleminded children in performance but revealed that the state system was carrying an unexpectedly large load of mentally defective children. Goddard argued that a special educational programme was needed for such children who were unable to do the work of their school grades. Previous attempts to establish such a system had failed through the aggregation of unselected children and the use of untrained teachers with no specialised skills to deploy.

Goodenough (1949) notes that Goddard "proclaimed his belief, like an apostle of old, in all possible quarters". His translation of the 1908 scale was followed by that of the 1911 revision. Vineland provided training for the specialist teachers of the feebleminded. Three major groupings for the classification of the mentally defective were proposed. Idiots whose mental age did not exceed two years; imbeciles whose mental age ranged from three to seven years, and morons whose mental age was greater than the imbecile group but did not exceed twelve years. Each group was subdivided into the categories of high, medium and low. Goddard's interest was further stimulated by findings which suggested that mental age obtained by testing varied with the degree of self-care of which the child was capable and with the complexity of the activity they could carry out in the institution. The Binet scale provided a quick method of classification for the purpose of training programme content (Sarason and Doris 1969).

As Weschler has observed the scales though of obvious crudity proved of clinical utility in the hands of the American practitioner. However the combination of Goddard's belief in intelligence as a fixed innate faculty with unrecognised standardisation limitations was to lead to gross overestimates of the incidence of feeblemindedness in a wide range of socially deviant groups. Goddard's vigorous advocacy of the social problem presented by inherited feeblemindedness, as ascertained by family pedigree studies and widespread test programmes contributed substantially both to the eugenic scare within the United States and United Kingdom and helped shape the subsequent development of custodial care provision.

In 1916 Terman at Stanford University published a revised restandardised American version of the Binet scale which achieved wide popularity in numerous countries including the United Kingdom. This was the first real revision to have appeared, since earlier versions were essentially translations with few new features. Standardisation of the scale had taken some six years and was based on children whose ages fell within two months of their birthdays and who were attending schools in what were judged to be "average" sections of American cities and towns. While a representative sample of children was used Goodenough (1949) notes that Terman did not appreciate the need to obtain samples not only of average developmental level but also to have essentially comparable variability within each age group. Equally many of those who used the scale to determine whether a child was to be considered educationally subnormal, or mentally defective may also have failed to appreciate the substantial movement in measured intelligence attributable solely to variations in size of sample standard deviations at different age levels (O'Connor and Tizard 1956).

The Stanford-Binet Scale produced by Terman was noteworthy for its introduction of the intelligence quotient concept. This index of intellectual development related the child's tested mental age to his chronological age, indicating the degree to which that child was intellectually advanced or retarded. Terman provided data showing what proportion of state school children had been found at each level, with a description of how the intelligence quotient (IQ) was to be interpreted. Goodenough (1949) notes that Terman was at pains to point out that this descriptive interpretation was intended as a general guide and not as a series of standards that could be applied without

reflection. Weschler (1972) stated, on this point, that Terman maintained throughout the subsequent revisions of the scale that test outcome should be considered as a sample of the individual's performance and held, as had Binet, that the intelligence quotient should be understood as an estimate of ability and not be seen as a final statement on the matter.

Goodenough (1949) states that notwithstanding these crucial reservations they were;

> "..... soon overlooked or forgotten by many enthusiasts who were dazzled by the numerous reports of the marked contrasts in school achievement and general behaviour of children with high and low IQs".

These persons soon became all too ready, within the prevailing climate of belief about the inherited nature of defect and intelligence, to accept the test results as the final criterion by which a child's potential abilities might be determined once and for all. The practical implications for the identification of the mentally defective and their subsequent education, management and life chances were considerable, since for purely administrative reasons, arbitrary cut-off points had to be established in order to allow the operation of any services.

The inadequacies of the Terman-Merril Scale (1937) Revision as a criterion for the operation of the mental deficiency services in the United Kingdom appeared in evidence offered by the British Psychological Society (1954) to the Royal Commission on the Law relating to Mental Illness and Mental Deficiency. While this reflected a changing appreciation of the defective, some of the implications of arbitrary criteria of mental deficiency had already appeared in 1921 with the publication of the United Kingdom of Burt's Mental and Scholastic Tests. In this volume Burt presented an English version of the Binet-Simon Scales of 1908 and 1911, which offered "the type of tests most suitable for London children at different ages" (Blair 1921). His interest had been directed in substantial degree to the identification of mentally defective children within the school system managed by the London County Council.

Recognising extreme diversity among the alternative tests offered and their method of use Burt had worked to establish an English version

of the French scales which would provide a standardised procedure and standardised norms .....

> "deduced from extensive trials with English children, trained in English homes and taught in English schools". (Burt 1921).

The necessity for a revision had been amply demonstrated during its development:

> "With Binet's original age assignments many older London children who are undoubtedly normal appear defective; and many younger children who are undoubtedly defective prove hard to convict of deficiency". (Burt 1921).

Burt's extensive investigation of the educational abilities and measured intelligence of pupils in London's normal elementary or special school settings allowed him the opportunity to identify and describe the character of the problem of intelligence test criteria in the estimation and identification of mental deficiency in children or adults.

Burt's preferred term for intellectual ability at that period was mental ratio; the quotient of measured mental age to chronological age. His data on educational attainments yielded an educational ratio, the counterpart of the child's mental ratio. Both terms were expressed on an age scale. Repeat examination within the special school setting showed a very substantial degree of variability in mental growth. For some an anomalous increase appeared to come about through "an intrinsic irregularity of mental growth", while in others increments seemed to be associated with favourable changes in personal circumstances. There were therefore children in whom mental deficiency was temporary in character. The initial level of retardation;

> "seldom in these children very severe, is redeemed partly if not entirely by a delayed and compensatory acceleration".

For others decline in mental growth occurred, bringing a child who was initially well above the most stringent test of deficiency

to a point where subnormality was beyond dispute. Progressive decline in mental ratio could arise through temperamental factors or physical illness such as epilepsy, or in some few instances, for no apparent reason at all. Such individuals were "almost invariably" borderline cases. The important consideration was that "latent deficiency" could just as well be understood as a artifact of the artificiality of accepted standards of deficiency.

> "Like most realities of nature, growth is irregular. Our line of demarcation is as straight and fictitious as the equator". (Burt 1921).

The possibilities of latent normality and latent deficiency, Burt's terms to describe the more extreme atypical variations, within the special school, necessitated a continuing check on the progress of the subnormal.

Referring to a hypothetical population of some 10,000 children distributed in the same way as those in his studies Burt presented data on the distribution of intelligence, in standard deviation units, in which the frequency of special school children had been brought to the critical ascertained fraction of 1.5 percent of children in school (Burt 1921). The degree of overlap between the two distributions was substantial. When compared with previous data the overlap for general intelligence was far greater than for educational attainments. In general intelligence the average for the special school children fell approximately 3.2 times the standard deviation below that of the normal school children. The average for educational attainments fell below that of the normals by more than 4.8 times the standard deviation, almost exactly half as much again.

> "The children in London special schools differ from normals far less in lack of intelligence than in lack of school ability". (Burt 1921).

From the standpoint of intelligence as the criterion of mental deficiency the overlap between the two distributions showed that more than half the special school children, the defectives, could be matched by children still within normal school, and were therefore on that criterion as Burt phrased it "presumably normal". Nonetheless some

fifty cases lay between 3.5 and 4.0 standard deviations below the normal mean. These were, on inspection, children in whom pathological defect seemed to be the most pronounced feature. No sharp distinction however could be drawn between even the pathological defectives and the extreme cases of normal deviation on the criterion of general intelligence.

The central problem therefore was how to determine an appropriate line of demarcation which would differentiate normals and mental defectives. Who was to be seen as the candidate for special school or indeed institutional provision? Drawing on the evidence from a variety of sources such as the Departmental Committee for Education (1898), the Royal Commission of 1904, the United States Bureau of Education (1911) Burt concluded that differences in criteria yielded estimates of the prevalence of defect varying from 0.2 percent to 5.0 percent, that is to say from approximately one in five hundred to one in twenty.

> "One estimate therefore recognises twenty-five times as many defectives as another. Upon what scale is an education authority such as that for the County of London, to provide, when one calculation declares that between the ages contemplated 22,500 children will be defective, and another only 900?" (Burt 1921).

Differences in prevalence as great as this arose from different views of what constituted mental deficiency in intellectual terms. Lower estimates might arise from consideration of only the more self-evident pathological cases found in institutions. Higher figures could be based on all those judged in need of special education irrespective of later outcome as adults. Consideration of the one to the exclusion of the other ignored their broad overlap.

> "In assuming that the dullest normal outside an institution will rank next above the brightest defective within, there lurks a simple but seductive fallacy. Freedom and segregation are contingent upon a multitude of factors of which intelligence, though the most vital, is but one; the duller 'normal' may be saved by a benign environment; the brighter 'defective' may have been ruined by defect of character. There are therefore two thresholds; not one threshold" (Burt 1921).

Burt's solution was to propose that the point of intersection between the distribution of intelligence in the two groups should be used as the line of demarcation which for his data fell 2.8 standard deviations below the mean of the normal school children. At the age of eight, when the decision had most often to be taken, a retardation of 2.8 years corresponded to a mental ratio of 67.1. In educational ability the point of intersection between normals and defectives lay 3.3 standard deviations below the mean of the normal school children, though since this standard deviation was smaller than that of intelligence the border for educational ability lay at 32 percent of age. As the children in special schools had all been ascertained as defective while those continuing in normal school had not the difference between the two groups was more apparent than real. The line of demarcation therefore varied in practice, with factors such as the preferences of individual examiners, oscillating between mental ratios of 70 and 75.

As this again introduced the subjective element into assessment, which tests were intended to eliminate, Burt's suggestion was put forward a number of postulates. As mental defectives identified by statute were a heterogenous group, mental deficiency should be treated as an administrative concept rather than as an entity to be defined uniquely through intelligence test criteria. Burt observed as had Tredgold that temperamental instability gave rise to substantial problems in the mental defective, resulting on occasion in social failure or "source of social menace". Burt's solution to the problem of the relationship between mind and intelligence was to define "mental" as an adjective of mind, so allowing it to be inclusive of temperament and intelligence.

> "Unstable persons, whose ability may be nearly normal may yet, in virtue of their need for care and control, be dealt with as feebleminded". (Burt 1921).

With intelligence defined in this way to demonstrate non-defective intelligence was not to disprove defect of mind. Mental defect was to be judged relative to social criteria. Burt reasoned that two lines of demarcation or practical cut-off points were required, one for school children and one for adults. Since the educational provision for the dull and backward varied greatly between authorities

the only satisfactory definition of mental deficiency in an administrative sense was one which related the number of mental defectives identified to the amount of accommodation available.

Any alternative cut-off point was indefensible, as he saw it. If special school provision were sufficient for only 1.5 percent of the school population a cut-off point which identified 12 percent as mentally defective would only tend to exclude more urgent, but less frequently identified cases, while filling provision with less urgent but more numerous children. Thus there could not be any "inviolable cogency" attaching to any a priori line of demarcation (Burt 1921).

In this approach to the designation of a certain percentage of individuals as defective the essential point was that, irrespective of the test employed or cut-off point chosen, the same persons should be identified. Where distributions departed from rectilinearity percentages had to be calculated by reference to measures of group variability. The intention behind Burt's presentation was to obtain a logically uniform and consistent approach to the determination of that group of children, which on other grounds had been declared to be the percentage capable of being appropriately educated, supported and instructed within the special system. He was aware that the logic of this argument led to the corollary, no provision therefore no deficiency, but turned criticism by an appeal to "immediate practical purposes". In a footnote to his argument for the cut-off point described above he observed that future practical measures might well require different cut-off points to be established for rural as opposed to residential or highly industrialised areas. Burt envisaged that such a study would start by attempting to assess what degree of antisocial conduct or social inefficiency required administrative provision; so providing a basis for the definition of that percentage of the total population to be accommodated. As far as the adult defective was concerned Burt felt that a different line of demarcation was indicated. His revision of the Binet-Simon Scale assumed an adult mental age ceiling at sixteen years. The strict application of a mental ratio of 70 produced a cut-off point between mental ages eleven and twelve as the lower bound of adult normality. Goddard in the United States had proposed that the upper bound of mental deficiency should be set between mental ages twelve to thirteen years, a limit that in Burt's view was far too high. In discussing this matter Burt questioned Binet and Simon's earlier view that the best

French defectives did not pass tests for mental age level nine or ten. While Simon had recommended to the English Eugenic Society that the upper limit of feeblemindedness should be provisionally fixed at nine years, Burt's experience of the London school system led him to the view that a mental age of eight constituted a working cut-off point. Children leaving special school were rarely notified to the local authority at the age of fifteen or sixteen on the grounds of defective intelligence unless their mental age fell below eight years. His own studies in England showed the average mental ratios of adults and children in a rural area to be a little over 80. Many farm labourers were able to work and live successfully with a mental ratio of 50.

As Burt saw the question, the relative success for those whose mental ratio fell at that level depended largely upon the circumstances in which they found themselves.

> "A defective in a complex environment may not be defective in a simple one".

The wise recourse was to watch to ensure that the milder cases did not fall into difficulties. For practical purposes the provisional limit proposed was that mental age eight constituted the upper bound of defective intelligence, though in adult cases "comparatively little weight will be attached in everyday practice to mere mental age". Mental age or ratio is:

> "only one of many symptoms to be weighed before his case can be finally rated as either normal or defective".

Other factors of a more practical kind, "physique, temperament, home circumstances or actual behaviour all contribute to the decision before certification is finally decided upon".

In the event, Burt's revision of the Binet Scale and those early recommendations conceiving a pragmatic approach to its use, appear to have had less impact on the use of an intelligence test criterion in the mental deficiency service than did Terman's revisions of the scale which, in time, became mandatory for those involved in the ascertainment of defective children. While Burt's ideas exercised great influence

in the province of educational selection and practice (Burt 1949, 1954, 1955, 1958a, 1959) the conception of intelligence he supported is most noteworthy perhaps for its affinity with Tredgold's social adaptation view of mental function. Both approaches owed their origin and development to the formative influences of nineteenth century scientific thought, notably "social darwinisim". In due course as the clinician's diagnostic procedures embodied these two standards, two crucial issues emerged to challenge the accepted view of the mentally handicapped, namely the problem of pseudo-feeblemindedness and IQ constancy. In general terms, as Weschler (1972) has noted, United States practice rested fundamentally on criteria of intellectual development when faced with the differential diagnosis of mental retardation, while United Kingdom clinicians were required to base their diagnosis on those of social adaptation. Within the United States the importance of social competence considerations was advanced by Doll (1935, 1936, 1941, 1947, 1953). His six essential criteria for the diagnosis of mental deficiency included the concept of incurability in addition to that of reduced social competence. Within both countries evidence accumulated challenging what had become the general view that measured intelligence provided a stable estimate of subsequent intellectual ability and potential, either in the general population or mental deficiency (Nemzek 1933, Thorndike 1940, Clarke and Clarke 1953, 1954, 1955, Mundy 1957). Burt had conceptualised the feebleminded child's progress to a mental age above a critical cutting score as the exemplification of "latent normality". Doll in a consideration of the same problem differentiated the normal intellectually retarded special school child from the clinically feebleminded, for whom special education had originally been established.

> "The criterion' once feebleminded always feeble-minded' is not to be lightly ignored. Consequently the determination of feeblemindedness merits more than the casual application of a single intelligence test". (Doll 1947).

As a former student of Goddard at Vineland Doll had chosen to include incurability as one essential aspect of genuine mental deficiency. Feeblemindedness was a "clinical symptom complex", whereas intellectual retardation was to be seen as a classification rather than a diagnosis, a temporary position on a single continuum rather than a syndrome.

At issue was the vexed question of course and outcome as criteria for mental deficiency, and the relationship of variability of performance to a priori prognostications. Whereas Doll acknowledged that the intellectually retarded could benefit by special education and take their place in society as well adjusted normals, the feebleminded, though improvable, could not.

Doll argued that psychometric assessment was not sufficient of itself to achieve an adequate differential diagnosis. Other measures were required to minimise the difficulties of diagnosis; group tests, if used, should be supplemented by individual tests, and the reverse procedure where appropriate. Specific disabilities such as reading and language handicaps, sensory and motor limitations should be taken into consideration, and most important social competence should be ascertained. This last was of great importance since by definition it represented the fundamental first distinction between feeblemindedness and intellectual retardation. The crucial consequence as Doll saw it was that failure to diagnose the syndrome, and its confusion with mental retardation, led to an inappropriate education for those, the feebleminded, who would always require some degree of social support and supervision in their lives.

In her discussion of errors of diagnosis in feeblemindedness Arthur (1950) accounted for the progressive improvement some children showed in their "Binet ratings" by reference to a number of factors which could depress measured intelligence. Among these she noted physical handicap, brain injury, mental retardation through illness and delayed speech. Individuals who improved on intelligence measures, achieving scores above accepted cut-off points were not to be considered as "cured" since they were not defective to begin with. Guertin (1950) examined differences between patients who had shown marked increase in measured intelligence and matched controls. The mentally retarded group came more frequently from poor home circumstances and were more frequently without a history of familial retardation. Noting that the differential diagnosis of feeblemindedness from pseudo-feeblemindedness was extremely difficult, he concluded that possibly some cases of apparent mental deficiency were really examples of slow mental maturation created by understimulating home circumstances.

Clarke and Clarke (1955) noted that the topic of pseudo-feeblemindedness, assumed mental deficiency to be an incurable condition,

and that such a view was strongly correlated with belief in the constancy of the IQ. The diagnosis of pseudo-feeblemindedness was necessarily retrospective and regarded the original diagnosis as an error; as Porteus (1941) had described this view:

> "Very wide differences in intellectual status merely indicate that the first diagnosis was wrong. Any child who finally functions at a normal level proves thereby that he was never feebleminded".

As the Clarkes saw the matter many longterm studies of normal children had shown that large increments and decrements occurring in measured intelligence were not uncommon. Where a feebleminded child was concerned a similar change was taken as indicating an initial error in diagnosis.

> "This difference in attitude to what are essentially similar phenomena reflects the pessimism with which mental deficiency has for so long been regarded". (Clarke and Clarke 1955).

Since various investigators (Charles 1953, Clarke and Clarke 1953, 1954) had shown that some mental defectives progressed more into the range of intellectual normality and in general functional terms were no different from other feebleminded persons, the belief in mental deficiency as an incurable condition and the associated belief in the constancy of the IQ could not be sustained in all cases. Clarke and Clarke (1954) concluded that among non-organic, "sub-cultural", defectives real change in intellectual status could and did occur. The term pseudo-feeblemindedness was appropriate in instances of erroneous diagnosis arising from insufficient examination by a clinician. It was inappropriate when applied to those whose performance on reliable criteria showed accelerated growth. As Benton (1956) observed when reviewing the evidence for a diagnostic category of pseudo-feeblemindedness,

> "Tredgold's assertion that high grade mental defect is always based upon cerebral defect or pathology, which is often not demonstrable, is a statement of faith. The implications of these findings are that traditional concepts of mental deficiency to the degree that they include a specific etiology, neuropathologic

> basis or course as defining terms should be abandoned"

While in addition in relation to the question of mental deficiency he concluded:

> "Since we deal with symptom pictures of multiple etiology no one specific etiology has any claim to precedence over any other as being the primary antecedent of so called true deficiency".

Though Burt (1921) had clearly followed Binet in regarding measured intelligence as a sample without reference to prognosis, his later thoughts expressly acknowledged the formative influence of Spencer and Galton on his conception of intelligence (Burt 1949, 1954, 1955, 1958 a,b, 1959). Intelligence in his view was best represented by "as innate general cognitive ability". The evidence available from divers sources across many years and involving numerous studies was best comprehended through the postulation of such a pervasive and essentially genetically determined ability. His exposition on this theme no doubt contributed to the popular view of mental deficiency characterised by Benton (1956):

> "Most students regard the proposition, that the cardinal behavioural feature of mental deficiency is intellectual subnormality, as virtually axiomatic".

Given the line of descent from the study of mind as a philosophical entity via defect of mind as the defining attribute of mental deficiency it should not be surprising if mental testing were to be regarded as the determination of largely invariant, inherited attributes, and that IQ constancy was its expression (Doll 1941).

Tizard, O'Connor and Crawford reviewed the relationship between accepted levels of measured intelligence and grades of mental defect (Tizard et al. 1950). Noting that the Mental Deficiency Act of 1927 defined mental deficiency as a

> "condition of arrested or incomplete development of mind existing before the age of 18 years",

they pointed to the absence of criteria by which mental development was to be assessed. Following the practice of Terman (1916), Burt (1921), Henderson and Gillespie (1944) and Penrose (1949) they concluded that general psychiatric practice regarded the upper limit of mental deficiency as around IQ 70-75.

Their research examined the relationship between a number of measures of intelligence when completed by mental defectives and the range of ascertained intelligence in the sample drawn from a large hospital population. They found that the 1937 Revision of the Stanford-Binet included almost ten times as many adults with IQs as low as 70 than the original revision had done. All their intelligence measures yielded mean and median IQ scores which fell above the 70 point cut-off, while various measures of cognitive ability did not correlate highly with intelligence scores. The likelihood that many dull normal or subnormal persons were held in mental deficiency hospitals was highlighted.

Clarke and Clarke (1953) examined the stability of intelligence test score in a group of mental defectives at the Manor Hospital and concluded that, during the period of mental growth, IQ constancy over long periods of time is the exception rather than the rule. Their data showed changes ranging from a decrease of 5 to an increase of 25 points on retest after an interval of 18 months. A subsequent study (Clarke and Clarke 1954) in young feebleminded patients tested the hypothesis that adverse environmental factors were related to reduced measured intelligence. Twelve criteria of adverse environmental influences were established from case history data and applied to those whose IQ scores had changed markedly and a matched control group. The criteria were successful in discriminating those who changed from controls at the level of 93 percent efficiency. Clarke and Clarke (1954) observed that the changes probably followed removal from a very adverse environment rather than entry into a relatively better one. Most important however was the conclusion that while others had noted intelligence score variability (Burt 1921) their follow up study showed that intellectual subnormality among certified feebleminded persons from socially adverse conditions was not necessarily a permanent and irreversible condition.

A later follow up study (Clarke, Clarke and Reiman 1958) provided evidence for the following observations. Mentally retarded persons

from bad social conditions showed substantial variation in measured IQ ranging from +5 to +20 IQ points. The course of intellectual growth extended across more years than had previously been believed. Pseudo-feeblemindedness was an inadmissible diagnostic category; the individual's intellectual status as measured on relatively accurate scales progressed across time. The changes observed in these measures were general indications of intellectual development in the feebleminded. Clarke et al. stated:

> "The main implications of the cognitive and social findings reported here seem clear; we cannot predict a necessarily poor outcome for children with IQs in the 50's, 60's and 70's if they come from an adverse environment .....Moreover findings such as these suggest that feebleminded persons, most of whom come from bad or very bad conditions, are, within limits, far from being the hopeless propositions which until recent years was generally accepted; already a much more positive attitude is emerging". (Clarke, Clarke and Reiman 1958).

A useful appreciation of the difficulties associated with the widespread uncritical use of intelligence test criteria in the diagnosis of mental deficiency can be got from evidence put forward on the matter by the British Psychological Society (1954, 1958, 1963). The Society submitted a memorandum to the Royal Commission on The Law Relating to Mental Illness and Mental Deficiency in 1954. In this submission particular attention was given both to the prognosis of high grade feebleminded individuals in hospital settings and to the criteria by means of which mental deficiency was identified. In particular attention was drawn to the wide, open-ended character of the British concept of mental deficiency, which ranged from the helpless and deformed person at the lowest level, to the intellectually normal delinquent at the other. In the Society's view apart from those cases where purely medical and nursing considerations applied, as in idiocy and some forms of imbecility, mental deficiency could be regarded primarily as a social, educational and training problem. Referring to the work of O'Connor and Tizard (1954) the memorandum observed that:

> "over half those certified as mentally defective are feebleminded and of these in terms of

> intelligence quotient roughly half fall within the ranges of intelligence in the general population that are labelled borderline, dull-normal and normal".

The Society noted that during this century the widening of the concept of mental deficiency had proceeded to the point where it was no longer closely related to biological, pathological or genetic definitions of the condition. One serious outcome of this had been the failure to make separate provision for those of defective intellect and those of disorders of character or temperament. Reference was made to the effect upon all patients of the "traditional pessimism" associated with the low grade patients, which could extend even to those of average intelligence since they were equally called mentally defective. Attention was drawn to the widespread use of psychological test results to support the case for certification, though this was not legally required, and to the high likelihood of errors arising in assessment through inadequate training in psychological methods on the part of those using intelligence tests.

The memorandum noted that large discrepancies were consistently reported between intelligence test scores used as evidence for certification and later reassessment by psychologists. Testing was often used to demonstrate what a person could not do through the selective reporting of failed test items even where patient variability in functioning allowed higher test items to be passed. On occasion abbreviated versions of standard tests with certain types of item selectively omitted were used, then compared with full scale norms, so producing invalid results. Re-certifications commonly referred to test results of substantial antiquity with no retesting having occurred in the interim.

Following publication of the Royal Commissions Report in 1958 the Society drew attention to those matters over which it differed with the Commission's view (British Psychological Society 1958). It noted in particular that the 1937 Revision of the Stanford-Binet, the only intelligence test mentioned by the Commission, was unsuitable for use with adults, was verbally biased at the borderline mental ages and markedly penalised the subcultural defective. In an appendix detailing the limitations of this scale the Society noted the following objections, among others;

1) The concept of mental age is nothing more than a particular name for a test score; its reality is entirely dependent on the items in the test and on its standardisation.

2) As a unit of measurement, mental age increments become progressively less across the years of mental growth. A year of mental growth does not mean the same thing at different ages.

3) The extrapolation of mental age scales into adulthood, where average test score increments cease in mid-adolescence leads to a mental age of 20 years being far from what the majority of 20 year olds achieve. Moreover a mental age of 20 years has an entirely different meaning from that of a mental age of 10.

4) Binet type scales move from performance to more abstract verbal skills with increase in mental age. Different abilities may therefore be sampled at different ages. The dull child from an adverse subcultural background is markedly penalised from the mental age of 7 upwards.

5) Equal mental ages can be achieved by various combinations of tests. Two adults of the same mental age may show in the one instance a uniform level of performance, and in the other great variability indicative of special abilities and disabilities.

6) Since the equation on which the IQ is based uses mental age as numerator these criticisms apply equally to the concept of the intelligence quotient.

In regard to standardisation deficiences of the 1937 Revision, later substantially overcome in the 1960 Revision, the Society noted,

1) Standard deviations of IQs vary across age levels ranging from 12 at age 6 to 20 at age 12. Thus unless corrected an individual's apparent intellectual status may vary for reasons of test standardisation alone. An IQ of 64 at age 6 is equal to an IQ of 40 at 12 unless corrected. The likelihood of this correction occurring is small, particularly when the test is used by those with no psychometric training.

2) Some distributions overlap progressively with increasing chronological age, so that mean mental ages are always higher than mean chronological age. Thus mean standardisation IQs vary from 101 to 109.

3) The standardisation of the test allowed the percentage passing a given "mental year" to vary considerably; between the age of 2 and 6 the level varies between 64 percent and 87 percent, and between 7 and 15 from 50 percent to 72 percent. The concept of an average fairly linear growth curve is therefore in no sense "real". It arises through the adjustment of percentages passing different years and through the manipulation of test items and order of difficulty.

4) Restandardisation sample was poorly selected appearing to be urban in character and of a high socio-economic bias.

5) The test is unsuitable for adults for sampling and content reasons, except in the absence of an alternative for those below IQ 45.

The Society noted that those difficulties had been known for a number of years (Weschler 1939, McNemar 1942) and drew attention to the procedures adopted by Weschler to overcome them, in particular his use of transforming raw scores into standard deviation units, where the lower bound of average ability was determined by reference to an IQ value of 90, with average IQ set at 100. The great advantage offered by the adoption of a standard score transformation approach lay in being able to dispense with mental age assumptions relative to chronological age and enhancing the only important meaning of the IQ as a measure of relative brightness.

The Society concluded that the Royal Commission's borderline for "severe subnormality" and "psychopathy" which was 50-60 in the 1937 Revision of the Stanford-Binet was probably 60-70 on properly standardised test of all round ability. The outcome of this anomaly would be, in the event of the Royal Commission's proposals being implemented, the inclusion of an unexpectedly large proportion of the high grade mental defectives in the category of severe subnormality reserved for idiots and imbeciles.

It is of note that, although variation in individual performance across time had been known to occur for many years (Burt 1921, Nemzik 1933) while test construction and standardisation problems had been discussed widely (Weschler 1939), little attention had been paid to their practical implication in the field of mental deficiency in the United Kingdom. This relative lack of concern stood in marked opposition to the intense debate on the nature of intelligence in other quarters (Spearman 1927, Guilford 1956, Burt 1958b). The vexed question of appropriate levels of intelligence

test performance to describe statutory categorical descriptions of mental deficiency contained in the Mental Health Act 1959 was the subject of a British Psychological Society Working Party (BPS 1963). The Act had identified three categories of defect to apply to England and Wales. Definitions given in the Act are as follows:

1) Severe Subnormality (SSN).
A state of arrested or incomplete development of mind which includes subnormality of intelligence and is of such a nature or degree that the patient is incapable of living an independent life or of guarding himself against serious exploitation or will be so incapable of when of age to do so.

2) Subnormality (SN).
A state of arrested or incomplete development of mind (not amounting to severe subnormality) which includes subnormality of intelligence and is of a nature or degree which requires or is susceptible to medical treatment or other special care or training of the patient.

3) Psychopathic disorder (PD).
A persistent disorder or disability of mind (whether or not including subnormality of intelligence) which results in abnormally aggressive or seriously irresponsible conduct on the part of the patient and requires or is susceptible to medical treatment.

The Mental Health (Scotland) Act 1960 was less explicit defining mental deficiency solely with reference to inability to live an independent life, without reference to reduced level of intelligence.

The Working Party noted that the 1959 Act specifically identified "subnormality of intelligence" as an essential constituent of subnormality and severe subnormality. This recognition therefore introduced two statutory criteria, defect of mind and reduced measured intelligence into the diagnostic process. No specific guidelines had been offered however on the limits of these two categories, and the Working Party sought information from psychologists working in the mental deficiency service on two questions. Firstly what was understood to be the upper bound of subnormality in intelligence test score terms? Secondly what, in practice, was regarded as the upper limit of severe subnormality of intelligence in terms of standardised intelligence test score?

Information was obtained from twenty hospitals on 964 admissions of whom some 650 patients were tested after admission. Mean WAIS or W-B scores for the SN and SSN groups were 71.4 (SD 12.3) and 60.4 (SD 8.1) respectively. Corresponding Terman-Merrill scores were 57.8 (SD 15.5) and 33.4 (SD 10.0). The PD group yielded a WAIS - WB1 mean score of 87.9 (SD 12.8) and a Terman-Merrill mean of 87.3 (SD 13.2).

The Working Party noted that the mean SSN full scale Weschler IQ seemed extraordinarily high at IQ 60, since psychologist respondents held the upper limit to be IQ 55 on a test with SD 15. It was of interest that among the SN group 25 percent obtained verbal or full scale IQs over 80; 35 percent of performance IQs fell above that point. The percentage of patients whose IQ fell in the normal range of intelligence (IQ 90-100) was 5 percent for the verbal scale, 14 percent for the performance scale and 7 percent for the full scale. The percentage of SSN patients obtaining verbal, performance and full scale IQs above 60 points was 56 percent, 48 percent and 49 percent respectively. The Working Party drew attention to the fact that many persons of low average or average intelligence were being classified as subnormal, while many were being classified as severely subnormal when their test results placed them well above the upper limit of severe subnormality of intelligence considered appropriate by psychologists working in the mental deficiency service. While the "floor" of the Weschler lay at about IQ 45 the Working Party noted that the majority of psychologists preferred to use it rather than the Terman-Merrill. The Working Party summarised this preference by stating that special surveys had shown the Binet IQ to be between 15 and 20 points below that yielded by the Weschler, when patients were tested on both scales within a short time interval. It therefore recommended that the upper limit of subnormality of intelligence should be considered to be IQ 70 and the upper limit of severe subnormality IQ 55, where the mean IQ is 100 and its standard deviation 15. The IQ range 70-80 was to be considered as borderline subnormal intelligence.

Bone, Spain and Martin (1972) referring to the Working Party on subnormality (1963) noted that while in general the terms "mentally handicapped" or "subnormal" appeared to be equivalent to the former term "feebleminded", and "severely mentally handicapped" and "severely subnormal" to the former grades of idiocy and imbecility, there appeared to be no agreement in practice on the boundaries between the two groups.

SUMMARY

Two types of behavioural criteria are available in the diagnosis of mental handicap. The first has been defined in law by reference to the individual's capacity to maintain an independent existence, through the appropriate exercise of socially adaptive skills. The development of custodial care followed from the view that the essentially biological character of mental defect, arrested or incomplete cerebral development, imposed rigid limits on the extent to which the "genuine" mental defective could adapt to the social demands of independent living. The earlier insistence upon the inherited character of antisocial or criminal conduct reinforced the view that ascertained social performance would remain at that level independent of environmental effects. United Kingdom practice was based upon the identification of degrees of mental defect through the clinical evaluation of social performance, in which process assessed level of intellectual functioning exercised an important but essentially subordinate classification function until the Acts of 1959 and 1960.

Level of measured intelligence was used widely in the United States as the sole criterion of mental retardation for many years. Expectations concerning intelligence quotient invariance paralleled those for the individual's social performance, a view eventually challenged by evidence from studies showing progressive changes both in social adaptation skills and measured intelligence level. These effects were most marked at the higher levels of mental defective performance. While the arbitrary and unsatisfactory character of intelligence test score cut-off points for the estimation of degree of defect is recognised the absence of any satisfactory method of evaluating social performance in a standardised way renders predictive statements concerning outcome an essentially hazardous matter.

CHAPTER 4

PART 1: ADAPTIVE BEHAVIOR - TERMINOLOGY AND CLASSIFICATION

PART 2: AAMD - ADAPTIVE BEHAVIOR SCALES (1969)

PART 3: ADAPTIVE BEHAVIOR SCALE - DEVELOPMENTS AND APPLICATIONS

CHAPTER 4.

PART 1: ADAPTIVE BEHAVIOR - TERMINOLOGY AND CLASSIFICATION

In 1952 the American Association on Mental Deficiency established a Special Committee on Nomenclature and Classification charged with the task of developing an appropriate conceptual framework within which mental deficiency could be described and classified (Heber 1958). In his review of the changing concept of mental retardation Nisonger (1962) noted that every branch of knowledge develops its own vocabulary of technical terms which convey specific meaning; if technical terms are adequate they become accepted and used, forming part of the language of the subject. If they are found to be inadequate they are discarded and alternative terms developed.

As the work of the Committee progressed it became clear that to continue to classify the mental defective in terms of three categories, and quantify these by reference to static intelligence quotient ranges would be an inappropriate procedure, given the nature of contemporary knowledge, practical needs and modern theory (Sloan and Birch 1955). These authors noted that the term mental retardation refers to the overall efficiency of the functioning person. Human differences, which provide the basis for the assessment of retardation, are both quantitative and qualitative; maturation, learning capacity and social adjustment are all considered in the process of determining degree of retardation.

In their discussion of a rationale for classification of the mentally retarded Sloan and Birch drew attention to historical precedents in the United States for relating intelligence test scores to categories of defect. Over emphasis, in the past, on the intellective aspects of retardation, reflected in terms such as mental deficiency, feeblemindedness, oligophrenia and the like, had contributed to the implication that measurement of the individual's intellectual status was sufficient for such a categorisation. This had been strengthened by the explicit procedure of associating intelligence ranges to categories of deficiency. With the passage of time the proper inference, that individuals of a given degree of retardation were usually within a particular range of intelligence, had switched to the improper conclusion that intelligence quotient range entailed a particular degree of retardation. Once it

was recognised that level of retardation is not necessarily synonymous with measured intelligence it becomes essential to specify the attributes which should contribute to determining degree of retardation. Sloan and Birch proposed a simple four level categorical scheme, where level of retardation was specified by reference firstly to criteria characteristic of social, educational, emotional and maturational development and, secondly, by the use of techniques such as standardised intelligence tests, tests of personality, social maturity and educational achievements, as well as by test of sensory, motor and speech function. Their intention was to provide a classification scheme, stratified by degree of retardation and age range in which intelligence quotients and other quotients would still be used but where their use would be more appropriate to the actual value (Sloan and Birch 1955).

The AAMD's Special Committee on Nomenclature and Classification reported in 1957, their work being taken up by the Project on Technical Planning in Mental Retardation (Nisonger 1962). The Project team were charged with the development of an inclusive manual on terminology and classification in mental retardation. Three major purposes were delineated; firstly to facilitate and improve communication through the development of an official or standard terminology with reference to mental retardation; secondly to present a classification of both the etiologic and descriptive aspects of mental retardation, which would provide data for research and administration; thirdly to present suggestions and examples of feasible methods of record systems to yield the maximum amount of useful data. It was recognised that, since classification delineates in part the information to be obtained in respect of the individual so classified, such a manual would have important implications for the medical, psychological, educational and other evaluations of that person. The developed scheme would be consistent with the Standard Nomenclature of the American Medical Association, reflecting the increase of medical interests in the field, while providing a range of diagnostic categories reflecting the heterogeneity of mental retardation phenomena.

In respect of the psychological or behavioural section of the manual the aim was to produce a more complete and reliable classification scheme that that provided by three categories established with reference to measured intelligence level. It was noted that IQ based classification did not provide adequate predictive validity in

respect of the social and vocational adjustment with which mental retardation services were increasingly concerned. At least two major dimensions for the classification of retarded behaviour had been suggested; the first intelligence level; the second level of adaptive behaviour (Heber 1958).

The Project team's view was that the dimension of intelligence should be scaled in standard deviation units rather than IQ scores to allow a more valid comparison of results from different tests; the second dimension, adaptive behaviour, should be defined and scaled in terms of types of behaviour required to reach an acceptable level of social functioning. It was not suggested that the dimension of intelligence was uncorrelated with that of adaptive behaviour, rather it was felt that sufficient independent variation existed to justify the use of a bi-dimensional classification scheme (Heber 1958).

The team appointed by AAMD produced a first Manual in 1959 which, with modifications, was approved by the Association in May 1960 (Heber 1959, 1961). In the section on Behavioural Classification the following perspective was adopted in relation to the diagnosis and classification of the mentally retarded. It was accepted that their heterogeneous behavioural characteristics could not be encompassed in a uni-dimensional approach. A complex multi-dimensional approach could not be entertained however, although highly desirable in the absence of knowledge about which behavioural parameters were important for predictive purposes, and where no adequately reliable and valid assessment techniques existed.

A more sensitive approach was needed nonetheless. Two aims were implicit in the classification scheme presented. Firstly it was hoped that research would lead to the delineation of the dimensions of behaviour important for classification. Secondly the classification should establish which major areas were to be evaluated when considering the individual, and through the appropriate use of stringent criteria reduce error in diagnosis and classification.

The definition of mental retardation adopted stated:

> "Mental Retardation refers to Sub-average Intellectual Functioning which originates during the Developmental Period and is associated with Impairment in Adaptive Behaviour". (Heber 1961).

The AAMD's thoughts on terminology and classification were summarised by Heber (1958, 1959, 1961, 1962). The crucial aspect of this concept of mental retardation was the introduction of the dual criteria of reduced intellectual functioning and impaired social adaptation. This stood in marked contrast to other statutorily determined or empirically established practices which had focussed either on impaired social adaptation or impaired intelligence, as the sole criterion of mental retardation. It was recognised that all abnormalities of human behaviour represent impairments in level of social competence; this could not therefore serve by itself as the defining characteristic by means of which mental retardation was to be distinguished from other behaviour disorders. Sub-average measured intelligence was inadequate as the sole criterion of mental retardation since intelligence tests predict only certain behavioural characteristics, and are subject to a degree of error. Irrespective of level of test score chosen some persons would be found below the criterion, whose social adaptation was adequate, while others above the cut-off point would show inadequate adaptive behaviour (Heber 1962).

In this respect, in many areas of the United States, intelligence test scores had long been used in a rigid way as criteria of selection or rejection of individuals for education or rehabilitation with little or no regard for other important aspects of functioning. The definition advanced by the AAMD was not intended to minimise the importance of intelligence test performance. As Heber set out the Association's position the aim was to enable clinicians to use intelligence test results more appropriately and efficiently. For those falling far below the mean on intelligence test measures, accompanying pronounced deficiencies in social and vocational skills and in learning rate would almost always be readily identifiable on clinical observation. For the milder degrees of intellectual incompetence it was now known that test outcome produced less effective predictors of future vocational, social and academic competences than had previously been believed. Those involved in diagnosis had therefore to make a careful evaluation of the adequacy or inadequacy of the individual's social competency, in order to substantiate or refute the overall level of functioning indicated by the intelligence test score. This process placed the two criterial dimensions in proper relation. Impaired social adaptation calls attention to the individual and determines the need for social and legal action on

his behalf as a mentally retarded person. Below average intellectual functioning distinguishes mental retardation from other disorders of social inefficiency.

Sub-average general intellectual functioning was defined by reference to general intelligence test scores falling further than one standard deviation below the mean. Five levels of retardation were established by reference to degrees of deviation in standard deviation units. (See Table 4.1).

Table 4.1

Standard Deviation Ranges Corresponding to Measured Intelligence Level

Statistical Code	Level of Deviation in Measured Intelligence	Range in SD Units
0	No retardation	Equal to or greater than -1.00
1	-1	-1.01 to -2.00
2	-2	-2.01 to -3.00
3	-3	-3.01 to -4.00
4	-4	-4.01 to -5.00
5	-5	<-5.01

Where judged appropriate the following terms descriptive of reduced Measured Intelligence could be used; Level 1 Borderline; Level 2 Mild; Level 3 Moderate; Level 4 Severe; Level 5 Profound.
(Adapted from Heber 1961)

Choice of the criterion cut-off point of one standard below the mean was purely arbitrary, but had been made on grounds of clarity and subjectively evaluated utility (Heber 1962). Some 16 percent of the population were identified on this criterion, a figure far exceeding usual prevalence estimates. The Association did not see this giving rise to concern as the majority of persons near this cut-off point would not show significant impairment in adaptive behaviour. For definitional purposes however where impaired adaptive behaviour was

established sub-average general intellectual functioning was regarded at least as a contributing factor. Raising the cut-off point from the more traditional IQ limits of 70 to 75, to -1 standard deviation gave the clinician a useful area of flexibility in which to use both criteria. (See Table 4.2).

Table 4.2

Conversion of IQ Scores according to Standard Deviation Values

Level of Deviation In Measured Intelligence	Range of Level In Standard Deviation Units	Revised Stanford Binet Tests of Intelligence	Weschler Bellvue Intelligence Scale Weschler Intelligence Scale for Children/Adults
-1	-1.01 to -2.00	83-68	84-70
-2	-2.01 to -3.00	67-52	69-55
-3	-3.01 to -4.00	51-36	54-40
-4	-4.01 to -5.00	35-20	
-5	<-5.0	<20	

(Adapted from Heber 1961)

The clinician was strongly requested to avoid classification on the dimension of Measured Intelligence through the use of anything other than well-standardised and appropriate tests of general intelligence. Where any doubts existed the Association recommended the use of data from several tests expressed in average standard deviation units (Heber 1961).

The dimension of Adaptive Behaviour was understood to refer primarily to the effectiveness with which the individual copes with the natural and social demands of his/her environment. Adaptive Behaviour was seen as a composite of many aspects of behaviour and the product of a wide range of abilities and disabilities. It was acknowledged that behaviour brought together under the headings of intellectual, affective, motivational and social activity, for example, all contribute to the

individual's level of adaptation to environmental demands. Two broad aspects were identified:

> "1) the degree to which the individual is able to function and maintain himself independently and
> 2) the degree to which he meets satisfactorily the culturally imposed demands of personal and social responsibility".
>
> (Heber 1961).

Since behaviour sampled by general intelligence tests contributes to total adaptation, level of function on the Measured Intelligence dimension would be correlated with level of Adaptive Behaviour. For the individual case discrepancies would be frequent; it is these which made it necessary to have a two dimensional classification scheme.

The desirability of having objective measures of adaptive behaviour was recognised, though there were few ways in which total adaptation could be precisely measured. One fundamental difficulty lay in the imprecision of the norms and standards to which the concept of Adaptive Behaviour referred. Norms varied at successive ages from childhood to adult life, being determined in part by developmental sequences reflecting decreasing dependence by the child and in addition, by culturally and socially imposed standards of acceptable behaviour. Since these standards are related to age, Adaptive Behaviour was always to be understood in terms of the degree to which the individual meets the standards of personal independence and social responsibility expected of his age group (Heber 1961).

The dimension of Adaptive Behaviour was categorised in terms of four levels, scaled from mild (but apparent and significant) negative deviation from population norms in adaptive behaviour at Level -1, to complete lack of adaptation at the extreme lower limit at Level -IV. The Association noted that were an adequate standardised instrument available for the measurement of Adaptive Behaviour the upper limit of Level -1 could be set, as with the Measured Intelligence dimension, at greater than minus one standard deviation from the population mean. The best single measure of Adaptive Behaviour then available was the Vineland Social Maturity Scale (Doll 1953). Standard deviation units on the Vineland Social Maturity Scale embracing the proposed four levels of Adaptive Behaviour are set out in Table 4.3.

Table 4.3

Standard Deviation Ranges Corresponding to Level of Adaptive Behaviour

Statistical Code	Adaptive Behaviour	Range in Standard Deviation Units
0	No retardation in Adaptive Behaviour	Equal to or greater than -1.00
1	Level -I (Mild but apparent and significant deviations from norms and Standards of Adaptive Behaviour).	-1.01 to -2.25
2	Level -II (Moderate but definite negative deviation from norms and Standards of Adaptive Behaviour).	-2.26 to -3.50
3	Level -III (Severe negative deviation from norms and Standards of Adaptive Behaviour).	-3.51 to -4.75
4	Level -IV (Profound negative deviation from norms and Standards of Adaptive Behaviour).	-4.75

(Adapted from Heber 1961).

The view was taken that the same approach based on standard deviation units could be used for other tests which reflected aspects of behaviour contributing to total adaptation. Adaptive behaviour was to be evaluated in terms of the degree to which the individual met the standards of personal independence and social responsibility expected of his chronological age group. As these standards varied with increasing age, level of adaptation would be reflected in different types of performance at different ages. For the infant maturational processes, as demonstrated in sensory-motor skills, were important; during school years, academic performances were primary. For the adult, work and social effectiveness were paramount and estimation of level of adaptive behaviour would require consideration of these factors as well as evaluation of strife, discord or harmony in the home or community (Heber 1962). The classification system offered eight broad

categories for the grouping of specific etiological mechanisms. Of these, categories I-VII, actual brain pathology was presumed to be the intermediary between a specific disease or condition and resultant mental retardation. Category VIII was however intended for the classification of those cases where after due consideration, no indication of brain disease of pathology could be found and, moreover for the classification of those cases where mental retardation was presumed to be associated with psychological rather than biological factors. As Heber (1962) commented:

> "the existence actual or possible of psychogenic causes of retardation can only be acknowledged by those who accept the broadened conception of mental retardation..... Those who adhere to the concept of capacity, constitutional basis and incurability would, of course, not regard psychogenic states as instances of 'true' retardation".

As Brison (1967) was to observe, the manual on terminology and classification brought together divergent opinions on definition and subsequent diagnosis, though its acceptance was not universal. Orr and Mathews (1961) examined the degree of relationship between judges when cases were drawn from case folder data and rated in terms of the AAMD classification scales. As the Manual was intended to bring some order out of "the chaotic status of terminology and classification in the field of retardation" (Heber 1959) these authors were anxious to establish to what extent judges employed the various categories in a similar manner when classifying the same sample of cases.

In all four raters classified fifty cases on the nine behavioural scales of the AAMD manual. The two main categories of measured intelligence and adaptive behaviour were used in addition to the seven supplementary categories of cultural conformity, interpersonal relations, responsiveness and motor, auditory and visual skills. On only two of the scales, Measured Intelligence and Speech Skills, did the judges agree in rating specific patients to the extent of approaching statistically significant multi-judge reliability.

The judges themselves were generally of the view that most of the scale definitions were capable of diverse interpretations and needed further refinement to improve clarity. All scales were found to intercorrelate with every other. The question of whether they collectively

contributed more than one kind of information was raised, and it was recognised that judges using an inadequately defined scale might well fall back upon a more adequately defined one. In all the authors, while in agreement with the aims and intent embodied in the Behaviour Classification section of the Manual, were impressed by the amount of work which remained to be done (Orr and Mathews 1961).

The final paragraph of the Definition section of the Manual had expressed that new intent thus:

> "..... mental retardation is a term descriptive of the current status of the individual with respect to intellectual functioning and adaptive behaviour ..... an individual may meet the criteria of mental retardation at one time and not at another. A person may change status as a result of changes in social standards or conditions or as a result of changes in efficiency of intellectual functioning, with level of efficiency always being determined in relation to the behavioural standards and norms for the individual's chronological age group". (Heber 1959).

Cantor (1960) took this view to mean that the Manual's definition of mental retardation did not include "incurability" as an essential criterion, so differing radically from the view advanced by Doll (1941). Other workers, Garfield and Wittson (1960) criticised the position taken in the Manual stating that no general cure for mental retardation was known. At issue was the use to which Category VIII in the Manual's medical section was to be put, given the often serious difficulties experienced in achieving differential diagnosis. Garfield and Wittson (1960) argued that where no cure existed as was generally the case, with a few newly-achieved exceptions, provision of such a category was irrelevant. Cantor (1960) advanced the view that where differential diagnosis was most difficult, as in the case of a young child with marked symptoms of intellectual subnormality and emotional disturbance for example, choice of descriptive category was irrelevant unless the label chosen led directly to one particular type of habilitative programme or another. Moreover failure to provide a classification category where cause of mental retardation was unknown, as was frequently the case, would serve to extend and perpetuate the view that mental retardation was "incurable" by definition.

Brison (1967) commented that the problem of definition in mental retardation was central to the management and education of the mentally retarded. Two separate classification schemes were contained in the AAMD manual. The first, a medical classification based on etiological rules, the second, a behavioural classification on observed characteristics of present behaviour. While some types of mental retardation were clearly medical in that they are caused by demonstrable physical conditions, a reliable etiological classification system was of value only to the extent it allowed the investigator to do something about the cause and "cure" the retardation, or make accurate probability statements about progress. In general the inference of etiology from present symptms of behaviour was difficult in the absence of a single cause. Where this applied etiology existed only as a correlate of classification, and did not allow very accurate probability statements to be made. Equally damaging was the widespread lack of knowledge about classification level and predictive criteria. The paucity of research on predictive validity reflected the separation of diagnostic process and treatment setting, as well as the diagnostician's lack of concern with the empirical validation of their diagnostic hypotheses. For Brison the AAMD classification system needed to be further developed within the general framework provided, with emphasis being given to accurate symptom description, symptom classification into useful systems and predictive validation of categories against independent criteria (Brison 1967).

Clausen (1967) took issue with the AAMD advocacy of a bi-dimensional classification scheme. Noting that the former assumption of a clear relationship between etiology and behavioural pattern (Doll 1941) had not been established, this author concluded that while it was important to continue to probe for behavioural differences between etiological categories, there was no point in assuming differentiation which had not been established. As only a fraction of the mentally deficient were diagnosed in the medical, as opposed to the behavioural classification sense of the term, it would be advantageous, if mental deficiency were to be considered as a common field, to find a common denominator for all those classified as deficient. Deficiencies had traditionally been drawn together under the term social incompetence. However as other authors had pointed out social competency was an elusive concept that varied with time, location and social stratum

(Clarke and Clarke 1958, Penrose 1949). For Clausen social adequacy was a very difficult dimension to handle from a diagnostic point of view.

> "The measurement of mental ability, the unique contribution of psychology, may well be the most adequate instrument in defining mental deficiency." (Clausen 1967).

The AAMD concept of adaptive behaviour was "ill-defined", the Manual's guidelines were poor, and for all practical purposes classifincation rested on a subjective evaluation of "social adequacy". It was possible that clinicians ignored the adaptive behaviour consideration and made their diagnosis on the basis of general intellectual functioning alone, as instruments for obtaining measures of general intellectual functioning were readily available. As far as cut-off points were concerned Clausen held that the traditional cut-off point of IQ 70 to 75 was more adequate on the grounds that:

> "it is primarily below this level that individuals show impairment of adaptive behaviour caused by low level of general intellectual functioning". (Clausen 1967).

In 1973 the AAMD issued a revision of its Manual on Terminology and Classification in Mental Deficiency (Grossman 1973). In a foreword Begab drew attention to the reawakening of interest in the plight of the retarded which had occurred in the decade following the 1961 Manual. In the medical sphere basic and applied research had made substantial advances in relation to etiology and pathogenesis and had developed possible methods for prevention and treatment. Additional clinical syndromes had been identified and techniques for prenatal diagnosis had been developed and refined.

The behavioural sciences had similarly learned much about the relationship between environmental factors and mental growth, about the untapped capacities of many retarded persons for socially useful living and had come to appreciate that even among the severely retarded functional performance is a product of the interaction between constitutional and environmental factors, and as such is open to modification. Begab noted that the potential for behaviour change, that is to say the dynamic nature of retardation, was one of the more significant concepts

to emerge in the field during that time. The revision of the Manual attempted to incorporate the developments and contributions to knowledge which had occurred during the decade.

The AAMD aims in presenting the revision were based on the appreciation that classification should serve a variety of purposes; data collection and statistical analysis; administrative, programming, and planning needs; research and teaching; aids to diagnosis. It was recognised that such a classification system should embrace the entire age span, be simple enough to encourage its use, and be compatible with other existing systems such as the International Classification of Diseases (ICD).

In pursuit of these aims the AAMD had undertaken a research project which had, among other outcomes, provided factor based scales of Adaptive Behaviour (Nihira, Foster, Shellhaas and Leland 1969). The early returns from this activity had contributed to the empirical foundation on which the revision had been established. A number of issues had exercised an influence in its development, which as Begab put the matter reflected the paradox that the more that was learned about mental retardation and its complexities the less confident diagnosticians became in the classification process. Among such issues was the current concern with the stigmatising effects of labelling upon minority group members, the use of intelligence test scores as a programming criterion for identification of retarded persons, where errors in administration measurement and construction of tests were often not appreciated and the presumed cultural bias of intelligence tests (Begab 1977).

The assessment of social competence was similarly open to the same limitations and difficulties as noted with intelligence testing. Standardised tests of social and adaptive skills were often poor predictors of scholastic performance and did not readily discriminate between social incompetence due to intellectual deficit and from that resulting from limited environmental opportunities. The dual approach to classification embodied a Bio-medical and a Behavioural system. The bio-medical system was intended to separate groups according to presumed or actual etiology. It was emphasised that no implication was intended that all individuals with a particular medical diagnosis would necessarily be retarded. Classification categories existed to the considerable percentage of cases where etiology was unknown. The bio-medical system was intended primarily

for use in residential settings for statistical classification purposes.

Certain changes had occurred in the definition of mental retardation. The Borderline category had been deleted and the definition amended to read as follows:

> "Mental Retardation refers to significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period". (Grossman 1973).

As defined, mental retardation is a behavioural "performance without reference to etiology. No distinction is made between retardation associated with psychosocial, polygenic or biological factors. Mental retardation is thus descriptive of current behaviour and does not imply prognosis. Prognosis is held to be related to such factors as related conditions, motivation, treatment and training opportunities rather than to mental retardation itself.

Significantly sub-average intellectual functioning refers to performance which falls more than two standard deviations below the mean of a standardised test. The cut-off point lay therefore at IQ 67 and 69 for the Stanford-Binet and Weschler Adult Intelligence Scale respectively. Mental retardation is diagnosed where both low measured intelligence and deficits in adaptive behaviour are present during the first eighteen years of life. Table 4.4 illustrates this relationship.

Table 4.4

		Intellectual Functioning	
		Retarded	Not Retarded
Adaptive Behaviour	Retarded	Mentally Retarded	Not Retarded
	Not Retarded	Not Retarded	Not Retarded

(Adapted from Grossman 1973).

Mental retardation, as determined by level of measured intelligence is separated into four levels scaled in terms of standard deviation units for normally distributed abilities. With the eliminatton of the former Borderline category IQ values for these levels of mental retardation are set out in Table 4.5.

Table 4.5

Level	Intelligence Quotient	
	Stanford-Binet (SD 16)	Weschler Scales (SD 15)
Mild	67-52	69-55
Moderate	51-36	54-40
Severe	35-20	39-25 (Extrapolated)
Profound	19 and below	24 and below (Extrapolated)

(Adapted from Grossman 1973)

Adaptive Behaviour is defined on the effectiveness or degree to which the individual meets the standards of personal independence and social responsibility expected of his age and cultural group (Grossman 1973). The relattonship between age and social expectattons leads to Adaptive Behaviour deficits varying at different age levels. In illustration. during infancy and early childhood deficits may arise in sensory motor skill development, communication skills, including speech and language, self-help skills and tve development of appropriate social behaviour with others.

Later in development during childhood and early adolescence deficits may occur in application of basic academic skills in everyday life activities, in the appropriate use of reasoning and judgment and in the development of social skills in group settings and on an interpersonal basis. During late adolescence and adult life deficits may be reflected in work and socially responsible conduct.

In general terms during infancy and early childhood there are orderly sequences reflective of maturational processes in the development

of sensory-motor, communication, self-help and socialisation skills. Delay in the development of these skills represents potential deficiences in adaptive behaviour, and if prolonged become the criteria for mental retardation.

During childhood and early adolescence skills of an adaptive character involve more of the learning process. Difficulties in learning are usually seen in school settings. Evaluation of level of adaptation should focus however not only on academic performance at this stage but should also consider skills essential in coping with environmental demands, such as the use of time and money, social responsiveness and interactive performances.

In late adolescence and during adult life, identified deficits establish what is required in terms of work training, placement and supportive services.

In establishing level of adaptive behaviour the AAMD drew the clinician's attention to the major limitations of most of the existing scales which, developed for use in institutional populations, were seen as not sufficiently broad to embrace the wider range of behaviours characteristic of mildly retarded children and adults living in the community. In view of these considerations decisions on level of functioning in adaptive behaviour were to be based on test data, clinical observation and as wide a range of sources as possible concerning the individual's everyday behaviour (Grossman 1973).

CHAPTER 4

PART 2: AAMD - DEVELOPMENT OF ADAPTIVE BEHAVIOR SCALES 1969

The definition of adaptive behaviour endorsed by the AAMD (Heber 1961) refers to the effectiveness with which the individual copes with the natural and social demands of their environment. Coping behaviour is expressed in terms of the degree to which the individual is able to function and maintain himself independently, and meet the culturally imposed demands of personal and social responsibility. The concept includes the notions of maturation, learning and social adjustment. The implication is that to an important degree mental retardation is a product not only of the individual's particular characteristics but also of the social and cultural norms and expectations of the particular environment to which he is attempting to adapt.

A similar appreciation of the dynamic nature of the phenomena of mental retardation had been expressed by Sloan and Birch (1955) as well as by other contemporary writers (Sarason 1959). In an early statement on the importance of environmental factors in the development of emotional disorders, Hirsch (1959) also drew attention to the similarity of behaviour problems shown by mentally retarded and normal children. Leland (1964) noted that the concept of adaptive behaviour described by Heber (1961) seemed to be important and useful to psychologists, though the dimension as described in the 1961 AAMD Manual appeared to be too closely related to that of measured intelligence to be able to be used as a separate and distinct quality. Nonetheless it met with a sympathetic response from those who had long felt that adaptive behaviour could be represented as a separate and distinct dimension in the functioning of the retarded child. The concept of a continuous dimension was also of substantial importance to those who had earlier advanced the view of human learning as a continuous process, in which rehabilitation of the retarded person was to be directed not towards some unspecifiable maximum capacity but rather toward raising the individual's physical, mental and social efficiency (Leland and Goldberg 1957).

In his criticism of the 1961 definition Leland advanced three reasons for taking issue with the AAMD's definition of adaptive behaviour.

Firstly it did not take account of the child who is either grossly handicapped or who functions in that manner. Retarded persons who are either totally nonambulatory or who are not effectively ambulatory function at various intellectual levels. Rehabilitation objectives for such persons are as equally important as those established for individuals who, it is anticipated, can become self-sustaining members of society. Secondly the concept of adaptive behaviour appeared to be directed toward the assessment of some absolute capacity, rather than the identification of rehabilitation and growth areas, and thirdly it had not been established as a dimension independent of measured intelligence.

Leland proposed that the assessment of adaptive behaviour should clearly become a method for defining rehabilitation objectives in a general sense, which would be of practical use to rehabilitation and training personnel. To achieve this he suggested that adaptive behaviour should be defined within a five level classification scheme, in which the description of functioning for each level was effectively a statement of rehabilitation objectives.

While the AAMD (Heber 1961) had suggested that classification of adaptive level could be achieved through the use of such scales as the Vineland Social Maturity Scale, the Gesell Developmental Schedule, the Cattell Infant Intelligence and the Kuhlmann Tests of Mental Development Leland suggested this procedure to be reconsidered not only becuase it failed to introduce rehabilitation objectives but also because it was important to differentiate adaptive behaviour from the concept measured intelligence when assigning an individual to a functional level of adaptation. Use of the proposed modifications could provide the necessary guidelines for the psychologist against which he could compare personal observation, case history material, and wider reports to establish the level of adaptive behaviour appropriate to the individual.

Leland noted that the very definition of adaptive behaviour implied a process of individual adaptation to social demands, which could be expected to differ from one community to another. It would seem to follow therefore that a universal scale of adaptation would be definitely counter indicated; rather a group of scales would be more

fitting to the task. As Leland saw the issue however,

> "there is a clear cut need for research to establish the parameters of this new dimension and to develop more objective scaling".
> (Leland 1964).

In their review of the development of the concept of adaptive behaviour in the field of mental retardation Leland and his colleagues (1967) examined studies of the relationship between measured intelligence and social adaptation assessed on the Vineland Social Maturity Scale (Doll 1953). They noted that since its introduction in 1936, one of the most frequent uses of the Vineland Scale had been for the assessment of the social competence of the mentally retarded, often for the reason that intelligence tests were unable to account for all the differences between individuals. In all, some thirty studies were located of this character. While it could be suggested that a "moderate" relationship existed between the two dimensions (Heber 1962) the authors concluded that it's magnitude depended upon at least three factors. First, the intelligence test used. Second, the "type" of subject used, and third the extent of variability within the groups studied. Correlations ranging from .90 to .00 had been reported between IQ and Social Quotient (SQ). In illustration Doll and Mackay (1937) reported IQ-SQ correlations of .68 for institutionalised retardates and .50 for children from special education. While this provided suggestive evidence that among the mentally retarded frequent discrepancies should arise between IQ and SQ in particular cases, Leland et al. (1967) concluded that the clinical significance of these earlier studies could not be established since the VSMS had standard deviations ranging from 6 to 50 across 32 different age groups rendering any comparison of social quotient and intelligence quotient invalid.

In order to provide a more precise understanding of the concept of adaptive behaviour as it relates to the classification of the mentally retarded an Adaptive Behaviour project had been established in 1965 at Parsons State Hospital and Training Centre, Parsons, Kansas. The primary objective of the project was the exploration and assessment of the basic attributes of the coping behaviour of the mentally retarded, with the aim of developing an objective instrument to provide quantative

descriptions of adaptive behaviour (Leland, Shellhaas, Nihira and Foster 1967, Nihira, Foster and Spencer 1968). In order to obtain an adequate sampling of behaviours for analysis, a review of existing behaviour ratings scales in the United Kingdom and United States was carried out. These included the Vineland Social Maturity Scale (Doll 1965), the Progress Assessment Chart (Gunzburg 1965) and the Caine-Levine Social Competency Scale (Caine, Levine, Elzey 1963), among others. The preliminary item pool consisted of 325 specific behaviours organised into 10 behaviour domains. It was recognised that 10 behaviour domains could not represent the entire concept of adaptive behaviour but this format was adopted firstly as a convenient way of classifying behaviour items established in existing rating scales and secondly because in the early development of the scale maintenance of continuity with other conceptions of adaptive performance was desirable.

The checklist was constructed to refer to observable and relatively specific behaviours in order that it could be administered by untrained observers such as parents, ward attendants and those involved in the daily life of the mentally retarded person. Initially a total of 307 patients at Parsons Hospital were rated by 27 ward attendants. Representatives of both sexes were selected for each of the five levels of adaptive behaviour proposed by Leland (1964). Ages ranged from 7 to 21 years. In order to test the utility of the adaptive behaviour concept the relationship between the 10 hypothesised domains and the patients assigned level of adaptive behaviour (AB) was examined. This initial investigation attempted to answer four questions;

Firstly, do the adaptive behaviour domains relate to the AB classification and to what degree?

Secondly, are some domains more strongly related to certain AB levels than others?

Thirdly, does age contibute to any differential association between the 10 domains and AB level?

Fourthly, which of the 10 domains is more closely associated with AB classification when measured intelligence is controlled?

It was anticipated that level of measured intelligence would contribute to level of general adaptive behaviour, since some of the behaviour sampled by intelligence tests contribute to total adaptation to the environment. For the purposes of future development of the scale the strength of the relationship between these variables was important as

low relationships would indicate that adaptive behaviour was adequately sampled by the item pool. In order to check these questions, each item on the checklist was evaluated to establish its degree of discrimination when patients were classified by AB level, while checklist items were evaluated in terms of their correlation with AB classification level, independent of measured intelligence (MI). To achieve this, each patient was given an AB-MI difference score; if AB were higher than MI this was scored as 3, if AB were lower than MI the difference score allocation was one. A correlation between the AB-MI difference score and a given scale item would provide an indication of the degree to which that item measures adaptive behaviour independent of measured intelligence. Collecting items which correlate with AB independent of MI effectively describes the ways in which AB is different from MI (Nihira and Foster 1966).

The majority of checklist items were found to discriminate the middle range of the adaptive behaviour continuum, AB levels 2-3, and 3-4. Only a small number of items shared significant discrimination between AB levels 1 and 2, suggesting that either checklist items were not suitable for describing individual differences among the mildly retarded, or that differentiation between AB levels 1 and 2 could be made by items not in the checklist. Some checklist items were found to be unsuitable for the children sampled. In short adequacy of the items was found to be a function of age and adaptive level of the persons rated.

The AB-Mi difference score was correlated with each of the 325 items of the Adaptive Behaviour Preliminary Checklist. Two hundred and eleven items shared significant correlation with adaptive behaviour or at least one AB level. One hundred and ninety-five of those 211 items also successfully discriminated along the AB continuum. While correlations between AB level and MI level among the institutionalised mentally retarded have been reported ranging from .95 to .58 (Leland et al. 1967), some 68.7 percent of the preliminary checklist items significantly correlated with that portion of the individuals' total adaptation which was currently not being measured by intelligence tests (Nihira et al. 1968).

As far as the future development of the Adaptive Behaviour Checklist was concerned, Nihira et al. (1968) were appreciative of the fact that while some domain items, for example those of Self-Direction,

discriminated in every case along the AB continuum only 43 percent of the same items were significantly correlated with AB when MI was controlled. Particular attention needed to be paid to accumulating items which related to coping ability but which were outside the scope of ordinary intelligence tests.

Nihira and Shellhaas (1970) reviewed progress on the development of the Adaptive Behavior Scales. The initial search had been for theoretically important and empirically salient behaviour dimensions to describe ways in which mentally retarded people differ from each other with respect to their coping behaviour. The initial pool of 325 behaviour descriptions had been subjected to a series of item analysis and validity studies. The degree of inter-rater reliability had been established (Nihira 1969 a,b). Part I of the Adaptive Behavior Scales was seen as providing useful quantitative descriptions of the individual's skills and habits important to maintaining his personal independence in several vital areas of daily living.

The skills and abilities sampled in Part I of the Scales were characterised within the following behaviour domains: independent functioning; physical development; economic activity; language development; number and time concept; occupation (domestic); occupation (general); self-direction; responsibilities; and socialisation. Part I comprised ten domains and twenty-three sub-domains, based upon sixty-nine items.

Part II of the Adaptive Behavior Scales was based upon the study of reported critical incidents following a technique developed by Flanagan (1954). Questionnaires were developed in which respondents were asked to report specific incidents of behaviour problems involving mentally retarded persons which might reveal the types of behavioural standards imposed upon them (Nihira and Shellhaas 1970, Nihira 1973). In the questionnaire respondents were asked to report incidents that would not be tolerated by themselves or others who might have contact with retarded persons in similar situations. The types of behavioural norms inferred from such incident reports could be called critical in the sense that they were based upon the types of deviant behaviour that were unacceptable to those playing a crucial part in determining environmental demands (Leland, Nihira, Foster, Shellhaas and Kagin 1966).

More than 2,500 incident reports were obtained from 58 psychiatric aides in two state institutions, 60 teachers of special education classes in the public school system and 158 attendants representing 23 day-care

centres in the USA. Incident reports referring to similar behaviour problems were initially grouped together, forming 85 specific categories. Behaviour categories were then grouped to form two broad domains of behaviour, those attributable to lack of skills and abilities and those that referred to emotional and conduct disorders. Classification of incident by group was made by two judges working independently; repeated classifications were made when disagreements arose. Initial comparison of type of incident, lack of self-help skills or emotional or conduct disorder, by type of environment indicated that the change of environment from institution to community was accompanied by a gradual shift in emphasis from the category of Self-Help Skills to the domain of Emotional and Conduct Disturbances. Seven broad areas of maladaptive behaviour were initially identified by this method. Scale items in Part II were obtained from the study of critical incidents to provide measures for the following domains; violent and destructive behavior; anti-social behavior; rebellious behavior; untrustworthy behavior; withdrawal; stereotyped behavior and odd mannerisms; inappropriate interpersonal manners, unacceptable vocal habits; peculiar or eccentric habits; sexually aberrant behavior; self-abusive behavior; hyperactive tendencies and psychological disturbances. In all some 265 items of specific behaviour descriptions in the areas of personality and behaviour disorders were assembled to provide a quantitative description of those aspects of behaviour relevant to the critical demands of the mentally retarded individual's social environment.

Two factor analyses to establish the construct validity of the Adaptive Behavior Scales were carried out by Nihira (1969 a,b). A total of 919 institutionalised mentally retarded men and women from two state institutions were rated using both Part I and Part II of the Scales. A total of 121 psychiatric aides served as raters. As the study was concerned with attempting to establish the number and nature of the general dimensions of adaptive behaviour which are most parsimonious in describing individual differences among the retarded of widely differing levels, factor analysis was carried out on the domain rather than the item scores.

Frequency distributions were inspected for irregularity since fifteen score distributions, three from Part I and twelve from Part II were heavily skewed scores were dichotomised for correlational analysis.

Inter-rater reliabilities were estimated from the scores of 48 patients rated by two independent judges. Reliability coefficients ranged from .86 to .35 with a median of .72. Six principal components accounting for 94.4 percent of the total variance in the correlation matrix were rotated orthogally to the varimax criterion. Interpretation of the rotated factors rested principally upon variables with factor loadings of .25 or greater. Three factors described as Personal Independence, Social Maladaption and Intra Maladaptation were identified as having an important bearing on the exploration of the general dimension of adaptive behaviour. The first, Personal Independence accounted for 54.6 percent of the communality and was bi-polar in character, loading all the domains of Part I on it's positive side and the domains of Socially Unacceptable Manners, Peculiar and Eccentric Habits, Self Abusive Behavior, Stereotyped Behavior and Withdrawal on it's negative side.

The second, Social Maladaptation, was unipolar in character, loaded the domains of Rebellious Behavior, Anti-Social Behavior, Untrustworthy Behavior, Psychological Disturbances, Violent and Destructive Behavior and Socially Unaccepted Behavior from Part II and accounted for 22.4 percent of the communality. The importance of this clear delineation was that it implied that the attributes of Personal Independence and Social Maladaption were independent of each other in the heterogeneous group of mentally retarded persons used in this study.

> "Just as a tall person may be heavy or light in weight, a retardate with high personal independence may be high or low in social maladaptation and a retardate with low personal independence may be high or low in social maladaptation". (Nihira 1969a).

The third factor, Intra-Maladaptation accounted for some 6.4 percent of the communality but was judged to require further empirical support since the domains which defined it were those which had been found to load negatively on the factor, Personal Independence.

In a further study Nihira (1969b) obtained adaptive behaviour ratings on 313 mentally retarded hospital residents aged between 8 and 19 years. In order to compare the factor structure of the Adaptive

Behavior Scales at different levels of maturation, residents were divided into three age groups; Pre-Adolescent (8 - 11 years); Early Adolescent (12 - 15 years) and Late Adolescent (16 - 19 years). Measured intelligence covered the entire range of mental retardation. Each mentally retarded patient was rated by one staff member. Factor analyses were carried out on domain rather than specific item scores. Skewed frequency distributions were dichotomised near the median for correlational purposes. Significant principal components extracted for each age group were rotated to the varimax criterion. Interpretation of factors was based principally upon domains with factor loadings of .30 or greater.

Two factors characterised as Personal Independence and Social Maladaptation emerged in all three age groups. Factor III, Personal Maladaptation emerged in both the Pre and Late Adolescent groups but was not present in the Early Adolescent group. Personal Independence was defined primarily by behaviour domains representing the mentally retarded person's skills and abilities required to maintain independence in daily living; these were Independent Functioning, Language Development, Economic Activities, Occupation (Domestic), Responsibility, Number and Time Concepts, Socialisation, Occupation (General), Physical Development and Self Direction. Moderate secondary loadings of Anti-Social Behavior and Untrustworthy Behavior were found on this factor for both the Pre-Adolescent and Early Adolescent groups, seeming to indicate that these behaviours are more frequently observed among those who are able to maintain personal independence than those who are less able. In the Late Adolescent group the negative pole of the factor, Personal Independence, was characterised by significant loadings of Withdrawal and Peculiar and Eccentric Habits. Two other behaviour domains Self-Abusive Behavior and Stereotyped Behavior, reflective of the maladaptive activity of some severe and profoundly retarded persons similarly loaded negatively on Personal Independence. Nihira noted that this factor was practically identical with the first factor found in an earlier study (Nihira 1969a) and seemed to represent the traditional notion of social competency as measured by the Vineland Social Maturity Scale.

Factor II, Social Maladaptation was defined by five domains with significantly high loadings. The group of domains suggested a broad general dimension of social maladaptation which included destructiveness, rebelliousness, untrustworthiness, anti-social behaviors and manners, and psychological disturbances, indicating various negative, anti-social, extra-punitive attitudes and activities

directed toward the social environment. The first two factors accounted for approximately 61 percent of the communality in the Pre-Adolescent group, 78 percent in the Early Adolescent group and 67 percent in the Late Adolescent group.

Factor III, Personal Maladaptation was characterised primarily by the three domains of Socially Unacceptable Manners, Stereotyped Behavior and Self-Abusive Behaviors in the Late Adolescent group. An almost identical cluster of domains had emerged, although somewhat weakly, in an earlier study with mentally retarded adults (Nihira 1969a). The loading of these domains suggested a self-depreciative, intro-punitive type of maladaptation. The factor loaded Peculiar and Eccentric Habits, Sexually Aberrant Behavior, and Rebellious Behavior in the Pre-Adolescent group, but failed to appear in the Early Adolescent group. The variance attributable to Personal Maladaptation varied considerably therefore, from zero to 20 percent among age groups, suggesting that it's theoretical as well as it's practical significance changed with the maturational process.

Variance attributable to the remaining factors varied from 5 to 10 percent of the communiality. Each was defined by only a few items and Nihira concluded that they were lacking in sufficient generality and psychological significance to be considered as salient dimensions of adaptive behaviour. The results from both studies (Nihira 1969 a,b) were interpreted as providing strong support for the view that Personal Independence, and Social Maladaptation are mutually independent dimensions in the ambulant hospital based mentally retarded population, and that the factors characterising these aspects of behaviour are invariant across a wide age range, from pre-adolescence to adulthood.

Nihira noted that since Personal Independence was largely unrelated to the identified dimensions of behaviour disorders, mentally retarded persons of equal levels of skill could well express themselves in quite different patterns of maladaptive behaviour, though the results suggested a period of developmental "turmoil" in early adolescence. At this age level behaviour domains defining Personal Maladaptation loaded instead on Social Maladaptation. In this regard Nihira noted that Maney, Pace and Morrison (1964) and Shellhaas and Nihira (1970) had studied reasons why mentally retarded persons were institutionalised and found that a large number were admitted

because of intolerable maladaptive behaviour in the normal environment rather than for limited intellectual abilities. Nihira (1969b) concluded that the behaviour of mentally retarded persons would be a function of their level of adaptive behaviour and the demands made upon them. Various maladaptive behaviour patterns might well be related to feelings of not being able to cope with situational demands. Reduction in level of social expectation might well lead to positive social adaptation. Such an interpretation would allow a far greater understanding of the relationship between environmental factors and adaptive behaviour to be reached.

CHAPTER 4

PART 3: ADAPTIVE BEHAVIOR SCALE (1975); DEVELOPMENTS AND APPLICATIONS

The AAMD Adaptive Behavior Scales were first published in 1969 (Nihira, Foster Shellhaas, Leland 1969). Two forms were provided; the first for children of twelve or younger; the second for adolescents of thirteen years or older and adults. Part I of the scales was described as assessing the individual's skills and habits in ten behavioural domains considered important to the maintenance of daily living. Part II was seen as providing measures of maladaptive behaviour related to personality and behaviour disorders in fourteen domains, or related areas of functioning. The authors observed that while measured intelligence has some value in predicting academic performance of average or above average persons from middle class communities it does not provide those in charge of the rehabilitation and training of the mentally retarded with a description of how well the individual maintains his personal independence nor how well he meets the social expectations of his environment, yet it is this information which is most important for the development of coping skills. The Adaptive Behavior Scales were regarded as meeting that need. The intending user was cautioned that a continuing programme of research was being carried out to assess non-institutionalised mentally retarded persons, as well as emotionally disturbed non-retarded persons, to determine test-retest reliability and longitudinal behaviour change under treatment, to compare ratings by different raters under different situations, to carry out typological analysis of the individual's score patterns and further factor analysis of the scale at the item level. Against such a background the authors advised that

> "Certain refinements will be necessary and revisions deemed advisable". (Nihira et al. 1969).

Following further research by the Adaptive Behavior Project Team a revised version of the ABS was completed and submitted to the AAMD. This was subsequently approved and published by the AAMD as the Adaptive Behavior Scale (1974 Revision). The two forms had

been replaced by one version covering both children and adults. Some items and a larger number of item headings had been changed, with some alteration to domain and subdomain headings. Changes had been directed toward language simplification and reduction in bias arising through wording. Double negative statements had been converted to positive, ambiguity reduced by the addition of qualifying statements and increased emphasis given to observable items. Norms of performance on Parts I and II were provided for the age range 3-69 years for mentally retarded persons living in residential settings in the USA.

Three further inter-rater reliability studies had been carried out in state training schools (Nihira 1973). In general these had found improved reliabilities for Part I of the Adaptive Behavior Scale. Reliability estimates from these studies had been averaged resulting in an improved overall mean reliabiity for Part I of the scale of .86, as against the original Part I of .74. Averaged reliabilities from these studies, for Part II of the scale, led to a slight reduction in mean value from .61 to .57.

A number of possible general uses for the scale were suggested;

First, the identification of areas of deficiency in individuals or groups in order to help in the development of appropriate training programmes and curricula.

Second, as a method of providing an objective basis for the comparison of an individual's rating over a period of time in order to evaluate the suitability of his or her current training programme or curriculum.

Third, as a method for the study of the ways in which different environmental factors influence the individual's behaviour, by a comparison of ratings from different settings, eg. home, school or ward.

Fourth, the evaluation of the same individual by different raters in order to gain additional understanding of the relationship between certain raters and that person, eg. mother and child, father and child.

Fifth, the stimulation of new training programmes and research.

Sixth, as a means for the development of descriptions of groups of individuals which would facilitate useful and realistic administrative decisions concerning programmes and staffing needs.

(Nihira, Foster, Shellhaas and Leland 1975).

Detailed information was presented in the Adaptive Behavior Scale Manual on methods of administration, scoring, graphical presentation of performance through use of profile interpretation. The user was cautioned that the Adaptive Behavior Scale was not to be used in or of itself to determine the individual's level of adaptive behaviour as discussed in the section on behaviour classification of the 1973 version of the AAMD Manual on Terminology and Classification in Mental Retardation. The point was made that the scale is one of the assessment devices and techniques which, in conjunction with others, can be used to determine an individual's level of adaptive behaviour.

In a series of articles Leland (1964, 1969, 1972, 1973, 1974, 1977) has developed the concept of adaptation in relation to the behaviour of the mentally retarded child, adolescent and adult and has described its relevance to the development of services, evaluation of intervention procedures and the diagnosis of persons functioning at a retarded level. As Leland conceptualises the process, the adaptation of an organism is the very delicate balance that it is able to achieve through its adjustment and accommodation to environmental cues. The human being must, for his part, take from his environment the cues and behavioural guides critical to the successful comprehension of the demands of that environment; having grasped these demands he is required to adjust his performance and modify his responses in order to develop adequate "coping behaviour".

The human evolution of coping behaviour is in effect part of what can be described as the clinical concept of intelligence. The human being is required to cope intellectually as well as physically in order to adapt to environmental demands. Much of this involves the use of accumulated knowledge and the social and cultural artifacts which have been evolved to assist in adaptation such as, for example, public and private transport systems. Retarded behaviour has therefore to be considered in terms of the individual's relative inability to develop appropriate coping strategies in response to complex environmental demands.

Should the individual be isolated then there is an increasing likelihood that correcting or reversing maladaptive, unsuccessful methods of coping will become more difficult with the passage of time. This

tends to produce a much more severely retarded individual than might have been the case had that person not been socially visible in the first instance. Since coping and adaptive behavior are by definition reversible elements within the individual's growth pattern, it can be concluded that had appropriate help been available when unsuccessful coping was first noted some, at least, of these elements could have been reversed.

Leland's view of the setting conditions of retarded behaviour underlines the central necessity for adaptive diagnosis;

> "Diagnosis used in this frame of reference is considered a combination of;
> 1) Knowledge of the individual's current level of functioning as determined by various behavioural observations.
> 2) Comparing the current functioning with information available from the history of the individual.
> 3) Judging areas of expected change in growth.
> 4) Comparison with 'typical' behaviors of other persons of the same age and community background and with the critical or survival demands of the family, the community or other social groups."
>
> (Leland and Smith 1974).

Diagnosis in mental retardation is therefore, as Leland (1977) conceptualises the process, concerned essentially with the identification of specific aims for those with demonstrated problems in coping skills. Skill acquisition, the primary purpose of intervention, is directed toward establishing the individual in an optimal relationship with community demands, and at best should be experienced by the individual in the company of those with whom he can communicate on the one hand and from whom he can model on the other. Measurement of adaptive behaviour is therefore of immediate use in the direct reporting of the individual's skills and coping strategies, while being indirectly informative of community demands, expectations and practices. From this point of view, where the individual is the focus of remedial activity the result is, as Leland phrases it, that

> "In a general sense little else need be known about the handicapped person beyond this basic information regarding whether or not he can perform a desired function or is exhibiting maladaptive behaviour". (Leland 1977).

As soon as this information is at hand appropriate remedial intervention can be initiated. The diagnostic use of the Adaptive Behavior Scale allows an easier and systematic appreciation of the way in which the individual is experiencing difficulties. The objective, as Leland has developed his thesis, is not to apply new labels, but simply to obtain the necessary information on which new skills can be planned and inappropriate ways of functioning changed.

Since the introduction of the Adaptive Behavior Scale a form for use in special schools in the USA has been developed (Lambert, Windmiller, Cole and Figueroa 1975) and it's factor structure examined with groups from different ethnic backgrounds (Lambert and Nicoll 1976), while the relationship of both forms to measured intelligence has been examined (Malone and Christian 1974, Hickman 1976, Lambert 1979). The factor structure of the Adaptive Behavior Scale was re-examined by Nihira (1976) in terms of Part One subdomain scores, while the factor structure of Part Two was subsequently investigated at the item level (Nihira 1978). The relationship between adaptive behavior and workshop performance was studied by Guarniccia (1976) and Cunningham and Presnall (1978), while from Japan Tomiyasu (1977) reported an extensive factor study which attempted to group Adaptive Behavior Scale items by reference to identified factor structure. A similar though more limited study within Belgian special schools was reported by Magerotte (1977).

Other authors have focussed attention upon issues raised by adaptive behaviour assessments. Further reliability studies have been reported by Upadhyaya (1977) and Hickman (1977).

Isett and Spreat (1979) have highlighted the particular difficulties of inter-rater reliability in the area of maladaptive behaviour. Changes in the composition of Part Two of the scale have been suggested by Taylor, Warren and Slocumb (1979) who reported a preliminary study of weighting items differentially for severity as well as for frequency of occurrence. A similar revision of Part Two involving weighting items by empirically established severity coefficients has recently been reported (Clements, Bost, Dubois and Turpin 1980; Clements, Dubois, Bost and Bryan 1981).

Though relatively little attention appears to have been given to the development of the programming use of the Adaptive Behavior Scale (Congdon 1973, Bogen and Aanes 1975, Windmiller 1977) studies using the Adaptive Behavior Scale in the area of deinstitutionalisation have been increasingly reported. In illustration Leland (1975)

reported the development of a deinstitutionalisation model using the ABS as an evaluation, classification and planning tool. Aanes and Moen (1976) and Aninger and Bolinsky (1977) evaluated adaptive behaviour changes in mentally retarded persons relocated in small community group-homes and apartments, while the relationship between maladaptive behaviour frequency in various residential and community settings has been investigated (Eyman and Call 1977, Eyman, Borthwick and Miller 1981). With the move forward normalisation of services interpreted widely as community relocation for the mentally retarded the Adaptive Behaviour Scale has been used to study the effects of firstly inter-institutional relocation (Cohen, Conroy, Frazer, Snelbecker and Spreat 1977) and secondly within community locations (Carsrud,Carsrud, Henderson, Alisch and Fowler 1979).

Particular difficulties exist in the identification and classification of mental retardation in terms of the degree of importance attached to measures of intelligence and adaptive behaviour. Adams (1973) found that overwhelming emphasis was placed upon measured intelligence in the classification of levels of mental retardation by both psychologists and physicians. While the importance of diverse societal-environmental factors for the future life of the child was widely recognised by clinicians, measured intelligence continued to be the prime determinant in many major decisions that needed to be made on behalf of the handicapped. Equally specific difficulties arose in the identification and classification of individuals whose ethnic backgrounds differ from those of the population on whom the instruments used in classification were standardised. Both subject and examiner race effects have been shown to affect scores on numerous measures under certain circumstances (Sattler 1970, Watson 1970). Adams, McIntosh and Weade (1973) examined the relationship between ethnic background, measured intelligence, and adaptive behaviour scores on the VSMS, and showed that while Negro children obtained poorer results on tests of intelligence than did Caucasian children, the two groups were comparable on the adaptive behaviour measure.

It followed therefore that the degree of emphasis to be placed upon measured intelligence as compared to adaptive behaviour in the identification and classification of mentally retarded children is of relatively greater importance in dealing with Negro children. Equally

the classification of Negro children as mentally retarded will differ depending upon which measure is used. Negro children will be classified as a group at a lower level if measured intelligence is allocated a major diagnostic role.

In 1971 the California State Education Code mandated the inclusion of a measure of adaptive behaviour in the psychological evaluation of children being considered for placement in programmes for the educable mentally retarded. This legal requirement was consistent with recommendations of the AAMD (1973) which defined mental retardation as the outcome of both impaired intellectual functioning and reduced adaptive behaviour. A manual had been produced (Lambert, Gleason and Wilcox 1973) which reviewed literature on the developmental and learning characteristics of the mentally retarded, assessment practices and the available evidence concerning the nature of sex and ethnic bias as shown in performance on standardised tests. This research demonstrated that the means were not available to comply with the mandatory requirement to include an adaptive behaviour measure in the assessment battery. While some procedures for the assessment of social functions were available, none of these methods had appropriate normative data on children attending regular and special education classes. While it was recognised that the Adaptive Behavior Scales represented the most comprehensive set of items for appraising adaptive behaviour, lack of appropriate norms made assessment of school children difficult.

In the light of these findings a project was undertaken to standardise the ABS on public school children, initially as a pilot scheme and then as a standardisation study (Lambert, Windmiller, Cole and Figueroa 1975). Referring to the Mental Health Survey of Los Angeles County (California State Department of Mental Hygiene 1960) Lambert et al. (1975) noted that in a population greater than 500,000 children 29 percent of the Educable Mentally Retarded and Trainable Mentally Retarded were judged to show severe psychological disturbance while serious problem behaviour, not necessarily requiring professional treatment was recorded in 26 percent of this group. Some 55 percent of special education pupils were rated as having moderate to severe behavioural problems. These authors concluded that children who are mentally retarded have interpersonal and intrapersonal disorders which interfere with the functioning. These behavioural problems are pervasive rather than centred totally on the effects of their retarded intellectual

functioning. A definition of mental retardation which includes both intellectual and adaptive behaviour criteria therefore acknowledges the reality of the complex intellectual and social handicaps accompanying mild to profound retardation.

The pilot scheme evaluated whether the scale had enough range to cover children in regular as well as special education, whether parents and teachers evaluated adaptive behaviour in significantly different ways and whether differences attributable to ethnic status were likely. The decision was made to use teacher behaviour ratings on the grounds that they, ultimately, are required to evaluate educational outcome with the handicapped.

The standardisation sample was defined in terms of type of class placement, population density, socio-economic status, ethnic status and age. In all a final population of 2,600 children between the ages of 7 and 13 were sampled within the Californian state public school system. Item validity was evaluated on the basis of teacher's ratings of degree of confidence in making judgements on that item. Item suitability was further evaluated by a panel drawn from special education, guidance and research personnel. The final version of the scale contained most of the items of the 1974 Revision, though the domains of Domestic Activity, Self-Abusive Behavior and Sexually Aberrant Behavior were not included.

Following extensive data analysis, table of norms showing percentile distributions of scores accompanied by means and standard deviations were developed for each age and placement group. The age range included children in grades two to six, as they are the grades within which schools most frequently assess learning handicaps and make placement decisions for special education programmes. Part I of the scale was found to be relatively independent of sex and ethnic status effects; a single set of norms was judged to be appropriate for children of either sex, whether of white, black or Spanish speaking background. Part II of the scale showed consistent sex and ethnic effects over age group and, accordingly, separate norms were developed for each category of child sampled. No inter-rater reliabiity study was carried out during the development of this version of the scale, though reference was made to reliability data reported in the Manual for the 1974 Revision. The authors concluded that the results obtained in the standardisation of the Public School Version of the Adaptive Behavior

Scale showed that it could provide a valid, useful assessment of elementary school children's adaptive behaviour and that, with other pertinent information, could provide a basis for the development of educational plans for the individual child (Lambert, Windmiller, Cole and Figueoroa 1975).

In his earlier studies of the factor structure of the Adaptive Behavior Scale, Nihira (1969 a,b) had concluded that adaptive behaviour should be regarded as a multi-dimensional concept. In their follow-up study to the standardisation of the Public School Version, Lambert and Nicol (1976) examined the structure of adaptive behaviour in the standardisation sample when grouped by age and type of education. They noted that if stable dimensions define adaptive behaviour in retarded and non-retarded children of different age levels, then a basis exists for the investigation of the use of diagnostic profiles of adaptive behaviour. These authors noted that analysis of the dimensionality of adaptive behaviour in a public school population of non-retarded and retarded children would provide an important contribution to knowledge of the psychometric properties of the Adaptive Behavior Scale, leading to the delineation of adaptive behaviour of potential use in the differential diagnosis of mental retardation. The results of dimensional analysis by type of classification, in which children were pooled across ages, and by age groups with children combined across classifications were remarkably similar. Number of dimensions was determined by the minimal number sufficient to exhaust at least 95 percent of the communality. Two dimensions were defined by domains of Part I and two dimensions by domains from Part II.

The first Part I dimension accounted for 39 percent of communality of adaptive behaviour of the Trainable Mentally Retarded group (TMR), 35 percent of the Educable Mentally Retarded Group (EMR) and 37 percent of that of the Regular school class group. This dimension was labelled "Functional Autonomy", since it reflected qualities of adaptive behaviour characterised by independent functioning supported by cognitive development. Domains defining this dimension were Independent Functioning, Physical Development, Economic Activity, Language Development, Number and Time Concepts and Vocational Activity. The second dimension of Part I accounted for 12 percent of the communality of the TMR, 7 percent of the EMR and 7 percent of that of the Regular class group. Defined by the domains of Self-Direction, Responsibility and Socialisation it was labelled "Social Responsibilty".

The first Part II dimension had the highest converged communality of all the factor dimensions. Defined primarily by the Destructive, Anti-social, Non-conforming and Untrustworthy domains, Eccentric Habits and Psychological Disturbances also were correlated with this dimension. In addition three Part I domains associated with the Social Responsibility dimension had moderate negative relationships with it. Labelled Interpersonal adjustment the first factor from Part II accounted for 41 percent of the communality of the TMR, 49 percent of the EMR and 59 percent of that of the Regular school class. The second dimension of Part II was defined by the domains of Odd Mannerisms, Interpersonal Manners and Vocal Habits. Labelled Intrapersonal Adjustment it accounted for 8 percent of the communality of the TMR, 9 percent of the EMR and 7 percent of that of the Regular school class. Lambert and Nicoll (1976) concluded that the results of the factor analysis of the adaptive behaviour of elementary school children in Regular, TMR and EMR classes provided excellent evidence that the dimensions of adaptive behaviour of retarded and non-retarded children are identical.

In a follow-up discussion of the complexities of interpretation involved in the use of the Public School Version, Windmiller (1977) drew attention to the fundamental differences between intelligence test data and adaptive behaviour measures. As a rating scale it's subjective character departs substantially from traditional psychometric assessment of intellectual ability. It cannot be viewed as just another test, nor as a substitute for an intelligence test; it's approach to the child was qualitatively different while it's philosophical base was different from that adopted by many diagnosticians and psychometrists. Renewed interest in adaptive behaviour assessment had arisen primarily because some states, California, Florida, Texas and South Caroline had mandated that a child must have a measure of adaptive behaviour in addition to that of intellectual functioning before proper placement in a class for the mentally retarded. The immediate practical use of the Public School Version was therefore in the area of avoidance of inappropriate placement of children in special education classes and as a guide to the development of child-centred programme planning to assist in the development of coping skills. Windmiller again stressed the point that adaptive behaviour and intellectual ability represent two areas of performance which may only be moderately related in the mentally retarded.

Halpern and Equinozzi (1969) had earlier drawn attention to the conceptual and empirical confusion surrounding the formulation of two dimensions, measured intelligence and adaptive behaviour as necessary components of the definition of mental retardation;

> "conceptually it is not clear whether we should regard deficits in intelligence and adaptive behavior as concomitant behavioral dimensions or if rather we should regard lowered intelligence/ intelligence as a cause of impaired behavior". (Halpern and Equinozzi 1969).

For others concerned with intervention the difficulties associated with traditional measures of intelligence used to identify the mentally retarded were undoubtedly of practical concern.

> "Little information can be furnished by global IQ scores in terms of needed profile analysis and in the description and classification of general coping behaviors". (Balthazar and English 1969).

Hickman (1976) noted that the practice of identifying the educable mentally retarded on the sole basis of a single intelligence test score continued to be a matter of concern, while as Adams, McIntosh and Weade (1973) had indicated difficulties arose over the lack of knowledge of what relative weight should be attached to the two dimensions proposed by the AAMD (Grossman 1973). Hickman evaluated the relationship between rated adaptive behaviour and assessed measured intelligence in a random sample of EMR pupils. Teachers rated 40 children, IQ range 55-70 on all ABS Part I domains (Nihira et al. 1974). Domain and total Part I scores were correlated with Full Scale WISCR, Verbal and Performance IQ Scores. Correlation between the Full Scale WISCR IQ and ABS total Part I score was .39 and between Performance and total Part I score .46. Hickman concluded that the Adaptive Behavior Scale is performance oriented with the relationship lying within the range reported by Nihira et al. (1968).

Lambert (1970) studied the contribution of school classification sex and ethnic status to domain scores from the Public School Version of the Adaptive Behavior Scale. The contribution made by classification, Regular Schooling and EMR, to domain score was extensive and in nearly all instances independent of sex and ethnic status. Ethnic status was

not a unique contribution to Part I domain scores when the effects of classification were taken into account. Sex made few contributions to domain scores in Part I of the Scale. Both sex and ethnic status contributed to score level on Part II domains. Boys always had higher scores than girls on the domains of Destructive and Non-Conforming Behavior. Ethnic status made a significant contribution to four age levels of Anti-Social behavior, three age levels of Rebellious Behavior and two age levels of Untrustworthy Behavior. Lambert considered that the effects of these variables necessitated the preparation of additional ethnic status norms to complement those established for the total sample and those for sex (Lambert et al. 1975).

In addition, Lambert carried out a post-hoc examination of the relationship between measured intelligence and domain scores for Regular class and EMR pupils as one group; the strength of association varied from .10 (Vocational activity, Self-Direction and Responsibility) to about .60 (Number and Time, Economic Activity, Language Development). The correlation between IQ and Part II domain scores ranged from -.01 (Destructive, Non-Conforming) to -.20 (Withdrawal, Stereotyped Behavior). Lambert inferred from her study that within the public school setting measured intelligence and adaptive behaviour share variance attributable to level of development.

Gully and Hosch (1979) attempted to address the difficulties experienced by educational services in allocating children to appropriate type of educational class. The classificatory power of the Public School Version of the Adaptive Behavior Scale was examined in a total of 588 children drawn from non-retarded, EMR and TMR classes across the age range of 6-13 years. Teachers most familiar with the child provided ratings on 15 of the 21 domains of the scale. Two standardised discriminant functions were developed. The first was determined by Number and Time Concepts and Age and Economic Activity. Non-Retarded children performed better on these domains than did retarded children. The three groups were arranged linearly on the dimension with the 388 non-retarded children at the high positive end, the 115 EMR children slightly below the centroid, and the 85 TMR group at the lowest extreme. These authors used Malone and Christian's finding (Malone and Christian 1974) that total Part I score on the Adaptive Behavior Scale correlates .75 with measured intelligence to suggest that this dimension appears to represent cognitive-intellectual functioning.

The second function was related to Violent and Destructive Behavior, Psychological Disturbance, Untrustworthy Behavior and Anti-Social Behavior, appearing to represent a personality behaviour-disorder dimension. Non-retarded and TMR children were located on the positive side of the centroid, the EMR group was located toward the negative extreme of the continuum. This positioning indicated that EMR children behave in a more disruptive, untrustworthy and psychologically disturbed manner, though they were less violent and destructive than the other two groups. The authors noted that this was consistent with findings that acting out, sexually agressive males and sexually uninhibited females are more likely to be judged to be EMR than are their peers of equal measured intelligence.

Classification functions were subsequently derived to identify group membership given the child's raw data and the obtained discriminant functions. Using this procedure 85.8 percent of the groups were correctly identified. The authors concluded that classification functions derived from discriminant analysis could provide an objective method to help eliminate the diagnostic dilemma encountered when children were neither so problem free nor so problem ridden that they can be located easily within one type of educational category or another.

While substantial attention has been given to the difficulties of making appropriate classification decisions in the area of special education some authors have continued to investigate the issue of the reliability of adaptive behaviour assessment. Hickman (1977) studied the cross-situational inter-rater reliability of the Public School Version of the Adaptive Behavior Scale. Using a test-retest design and a specially prepared alternate form of the ABS three groups of randomly assigned parent-teacher pairs rated 90 educable mentally retarded children aged between 7 and 14 years. Group One used the ABS. Group Two used the alternate form and the ABS. Group Three carried out ratings using the alternate form. Inter-rater reliability coefficients for the ABS subdomains of Part I ranged from -.08 to .97, for the alternate form and the ABS from -.26 to .98, and for the two administrations of alternate form from .18 to .95. Hickman suggested that the data supported the view that parental information must be used when decisions based upon adaptive behaviour are to be made.

Isett and Spreat (1979) reported test-retest and inter-rater reliability coefficients for all domains of the AAMD Adaptive Behavior

Scale. Residential direct-care workers provided test-retest data on 28 residents and inter-rater evaluations on 29 clients. Test-retest reliabilities were uniformly high on the 10 domains of Part I ranging from .85 to .97 (Mean = .91). Inter-rater reliability coefficients ranged from .42 to .93 (Mean = .76). Inter-rater reliabilities were lower than test-retest reliabilities in all 10 domains and were less than .70 for Self-Direction, Responsibilities, Socialisation and Physical Development. Physical Development yielded an inter-rater reliability coefficient of .42.

Part II rater consistency was reasonably high with test-retest reliabilities ranging from .60 to .97 (Mean = .83). Only Inappropriate Interpersonal Manners yielded a reliability of less than .70. Inter-rater reliabilities were extremely variable, however, ranging from .32 to .84 (Mean = .56). Only Stereotyped Behavior and Odd Mannerisms yielded a coefficient over .70. Isett and Spreat observe that while test-retest and inter-rater reliabilities of Part I are acceptable, in the main those of Part II are unacceptably low, indicating that clinical or research findings based on this part of the Adaptive Behavior Scale should be interpreted with great caution.

In a follow-up study of the factor structure of the Adaptive Behavior Scale Nihira (1976) noted that Lambert (1976) had delineated two dimensions labelled Functional Autonomy and Social Responsibility in her analysis of Part I of the Adaptive Behavior Scale (Public School Version), suggesting that it would be appropriate to examine the factor structure latent in the dimension of Personal Independence (Nihira 1969 a,b). A total of 3,354 mentally retarded persons in eight different age ranges, from 4-69, were rated on the 25 sub-domains of Part I of the ABS (1974 Revision). Three separate rotations using the first 3, 4 and 5 principal axes were carried out. The principal axes were then rotated obliquely toward the oblimin criterion. The 5 factor rotation contained one factor with no significant subdomain loading. Based on simple structure and psychological significance of the rotated factors the three factor rotation was chosen as the best solution for all age groups with the exception of the 6-7 year old group. Interpretation of the factors rested on variables with a factor loading of .30 or greater.

The first factor, labelled Personal Self-Sufficiency, emerged for all age groups from 4 to 69, defined primarily by variables labelled Eating, Toilet Use, Cleanliness, Dressing and Undressing, and Motor Development. It was considered as a developmental stage of the

individual as an independent social unit, with emphasis on self-sustaining adequacies in the personal sphere.

The second factor described as Community Self-Sufficiency emerged for the age group 10 to 69, and was defined by the variables of Travel (Locomotion), General Independent Functioning, Money Handling and Budgeting, Shopping Skills, Expression, Comprehension, Social Language Developments, Numbers and Time, Cleaning, Kitchen Duties and other Domestic Activities. Nihira notes that these variables relate to both personal independence beyond immediate personal needs and self-sufficiency as reflected in relationships with other members of the social environment. The factor of Community Self-Sufficiency did not clearly emerge in children younger than 9 years. Nihira refers to an earlier study by Tomiyasu and Matsudu (1974) in which these authors had found that the factor of Personal Self-Sufficiency is the most significant dimension of adaptive behaviour in children, while the Community Self-Sufficiency factor is the most significant in the adult population. In the Japanese sample the gradual shift in emphasis occurred somewhere between 11 and 15 years of age. The precise age of crossover in the degree of relative contribution from one factor to another was related to the persons level of intelligence.

The third factor to emerge was described as Personal- Social Responsibility. This factor was identified in all groups above 10 years of age. The factor was defined primarily by the variables of Initiative, Perseverance, Leisure Time, Responsibility, Socialisation, Vocational Activity, Appearance and Care of Clothing. The variables loading on this factor represent a broad spectrum of attributes subsumed traditionally under the general label of responsibility. That is to say the initiative to engage in purposeful activities, antonomy to manage one's own affairs,responsibility for self and others and interest in group activities.

Separate factor scores were estimated from the sum of raw scores on these variables, converted to standard scores and then plotted as the mean factor score for each of ten age groups across the five levels of measured intelligence. Nihira noted that the separation of the developmental curves for each of the factor scores indicated a degree of correlation between the three factors and level of intelligence. The correlations tended to be higher for the adolescent groups and lower for the young children and older adult groups.

The average correlation between measured intelligence level and factor scores was .54 for Personal Self-Sufficiency, .68 for Community Self-Sufficiency, and .54 for Personal-Social Responsibility. Nihira observed that these values were based on a heterogenous population ranging in intelligence from profound to borderline levels. The correlation between the adaptive behavior factors and measured intelligence would be far lower if estimated from a more homogenous population. Examination of the relationship between factors indicated that they were moderately correlated with each other. Personal Self-Sufficiency correlated .44 with Community Self-Sufficiency and .42 with Personal-Social Responsibility. Community Self-Sufficiency and Personal-Social Responsibility correlated .48. Nihira concluded that given the heterogeneity of the sample population the correlations were low enough to warrant the conceptualisation of these factors as separate hypothetical constructs.

In a subsequent study Nihira (1978) reported the outcome of a study of maladaptive behavior in the mentally retarded in institutional settings. Four groups totalling 2,616 adolescents and adults were rated on the 44 items of Part I of the Adaptive Behavior Scale. Four separate rotations of principal factors toward the direct oblimin criterion were carried out for each group, using the first 8, 9, 10 and 11 principal factors. Nine behaviourally significant factors emerged from these factors. Factors I, II and III were listed under the general dimensions of Social Maladaptation. Factors IV, V and VI were located on the general dimension of Personal Maladaptation. Factors VII, VIII and IX were tentatively listed under other Behavior Problems since their was no basis for regarding them as part of Social Maladaptation or Personal Maladaptation. Factor VIII, Inappropriate Sexual Behavior, emerged for the mild and moderately retarded groups only, while Factor IX, Temper Tantrums appeared only in the severe and profoundly retarded groups. Nihira noted that the profile of an individual or a group on the basis of factor scores is open to meaningful interpretation and can provide a potential source of testable hypotheses for programme development and training strategies.

Tomiyasu (1977) presented the outcome of an extensive factorial study of the items of Part I of the Adaptive Behavior Scale. Previous studies (Tomiyasu and Matsuda 1974) had suggested that there was a

case for the development of another way to classify items of Part I, since for example subdomains such as Locomotion and General Independent Functioning had been found to have consistent and relatively large loadings on the factor Social Adjustment. To find a new system for classifying items in Part I factor analyses were carried out on Adaptive Behavior Scale data on 1,037 children from 6-12 years of age, and 1,780 adolescents aged 13-20. Seven oblique factors accounting for "45.2 percent and 49.2 percent of the total variance in the correlation matrix for children and adolescents respectively" were identified.

The seven factors were labelled from A to G and identified in order as, Motor skills, Personal Self-Sufficiency skills, Community Self-Sufficiency skills, Academic skills, Communication skills, Self-Regulation in Personal Activity and Self-Regulation in Group Activity. Sixty-four items for children and 62 items for adolescents including 56 common to the two age groups were differentiated by these factors. Tomiyasu noted however that some items such as Vision, Room Cleaning, Laundry and Job Complexity for children, and Toilet Training, Menstruation, Posture, Vision, Hearing, Job Complexity and Awareness of Others for adolescents had no significant loading for one or another of these age groups. Tomiyasu concluded that the findings seemed to suggest either a new classification system or an alternative scoring procedure for Part I of the scale.

In a limited study of the Adaptive Behavior Scale in a vocational training centre, Guarniccia (1976) rated 40 community based mentally retarded adults on the 10 domains of Part I observing that previous factor studies (Nihira 1969 a,b) had identified three major dimensions of which two were personal maladaptation and social maladaptation. Guarniccia noted that this emphasis on behavioural pathology could well arise as a reflection of the institutional condition rather than the scale itself. Use of the scale in other populations might yield different factors. Using domain scores the data were subjected to a principal components analysis and the derived factors rotated orthogonally to a varimax solution. Four factors identified as Personal Independence, Personal Responsibilty, Productivity and Social Responsibility were extracted, and together acounted for 61 percent of the total variance in the correlation matrix.

Step-wise multiple regression equations were calculated with age, sex, verbal IQ performance IQ and a rating of maternal trust as

predictor variables of the derived ABS Part I factors. Personal Independence, was predicted most effectively by Verbal IQ, Sex and Maternal Trust. Verbal IQ predicted almost 40 percent of the variance, and when associated with the remaining four variables some 75 percent of the variance on the criterion of Personal Independence was accounted for. With respect to the other factors, the five predictor variables accounted for no more than 20 percent of the variance in Personal Responsibility and Productivity. The predictors were of virtually no value in relation to Social Responsibility. Guarniccia concluded that the results of the factor analysis correspondend very closely to the theoretical proposals of Leland (1973) concerning the basic structure of adaptive functioning, while the failure of the five predictors to account for a significant proportion of the variance in three of the factors underlined the importance of maintaining a range of criteria on which to evaluate successful adaptation. This was of particular importance in the selection of clients for rehabilitation services.

Cunningham and Presnall (1978) carried out an investigation of the relationship between factor dimensions of the Adaptive Behavior Scale and workshop productivity in a sheltered workshop. Their concern was to establish the factor structure of the ABS when used in a community setting and to evaluate it's effectiveness as a predictor of workshop performance as measured by hourly income rate. Data were obtained on 217 sheltered workshop clients aged 18-49 years. Factor analysis was carried out on the 24 domain scores of the scale and the control variables of age and sex. Skewed distributions were dichotomised at the median prior to analysis.

Seven factors rotated orthogonally to a varimax solution were identified. The seven factors accounted collectively for 58.9 percent of the variance in the original correlation matrix. The first three factors represented 82 percent of the variance in the rotated factor matrix. Factor One labelled Personal Independence accounted for 49.6 percent of the variance. All Part I domains, except Physical Development loaded on this factor. The second factor, Social Maladaptation represented 22.9 percent of the variance and loaded the Part II domains of Anti-Social behavior, Rebellious Behavior, Untrustworthy Behavior, Psychological Disturbances, Violent and Destructive Tendencies, Unacceptable Vocal Habits and Hyperactive Tendencies. Factor Three, Personal Maladaptation, accounted for 9.6 percent of the

variance and loaded the domains of Unacceptable and Eccentric Habits, Stereotyped Behavior and Odd Mannerisms, Sexually Aberrant Behavior, Self-Abusive Behavior and Inappropriate Manners. Four other factors labelled Social Isolation, Physical Development Age Differences and Violent and Destructive Behavior accounted for 5 percent of the variance or less in each instance.

A step-wise regression analysis was carried out using the seven factors as predictor variables for the dependent variable of salary. Total variance due to the regression, terminated at 5 factors, was .28. Most of the regression variance was accounted for by Factor One, Personal Independence, with an R^2 value of .22. Collectively the four factors of Part I accounted for 27 percent of the variance. The addition of the Part II factor, Personal Maladaptation, increased the R^2 value to .28. Cunningham and Presnall concluded that the three factors of Personal Independence, Social Maladaptation and Personal Maladaptation represent important adaptive behaviour dimensions in both the institutionalised and community based mentally retarded populations.

In his annual report of the activities of the Adaptive Behavior Project Leland (1975) referred to the trend to relocate or deinstitutionalise mentally retarded persons in community settings in the United States. A comparative study of community and institutionalised mentally retarded persons had shown that while the institutionalised group functioned lower on Part I skills of the ABS, groups were comparable on the domain of Physical Development. This had been interpreted to mean that the institutionalised group would be capable of higher levels of functioning following proper training within or outside the institutional setting.

The institutional group had also shown higher maladaptive behaviour scores on Part II of the ABS. While it could not be said whether this was the determining reason for institutionalisation, or it's consequence Leland proposed that such behaviours could either be eliminated or brought within a tolerable range with proper training within an appropriate social setting. The process of deinstitutionalisation required prior assessment of the individual's functioning levels and skills to allow proper planning of facilities and support services in community settings.

A deinstitutionalisation model had been developed using the ABS as an evaluation, classification and planning tool. Three

criterion groups established in independent, semi-independent and dependent residential settings, independently rated as functioning optimally in those settings, had provided the means to establish those parts of the ABS which best predicted group placement. The mean group profile subsequently derived from this study had then been used in a discriminant function analysis of 605 retarded men and women living in hospital and 85 individuals employed in sheltered workshop settings. In order to minimise misclassification a criterion probability value of at least .75 was used in the analysis. Of the 605 institutional residents 88 percent were classified on this criterion. In the community sample 85 percent reached criterion. Further analysis showed that of the 605 residents approximately 45 percent or 270 were capable of functioning in the community at a semi-dependent level or above.

Following classification of individuals into one of the three residential options analysis of variance was carried out on the ABS for the institutional and community samples. All Part I variables of the scale contributed significantly to the differentiation among groups. For the community sample only 23 out of the 27 Part I variables discriminated in this way. Leland highlighted the planning and budgetary implications of this deinstitutionalisation model in relation to the development of future community services in the eight counties surveyed in Ohio.

As a part of a five year research project into the development of adaptive behaviour in mentally retarded persons in a variety of settings Nihira and Nihira (1975) gathered reports of positive normalised behaviour from a range of personnel in family care and board and care homes, using a modified version of the critical incident technique (Flanagan 1954). Recognition and understanding of normalised behaviour is central to the development of appropriate preplacement training or rehabilitation programmes. A total of 1,344 incidents were reported by 100 respondents; 194 were of positive or normalised behaviour. Analysis by type of incident showed that 63.3 percent fell into the category of Acquired Skills and Abilities, while the remainder, 36.7 percent could be categorised as Approved Attitudes and Interpersonal Relations. The results showed the caretakers to be primarily concerned with their residents ability to care for themselves, help with the domestic chores and

behave in an approved manner with fellow residents and members of the community at large. The need for training programmes, for caretaking staff, on skill acquisition by the retarded was identified as central to the development of appropriate habilitation programmes.

In a complementary study Nihira and Nihira (1975) analysed incidents of reported problem behaviour where there was a real or serious potential risk to the continuing community placement of the mentally retarded person. Three types of jeopardy were identified, involving jeopardy to health and welfare, jeopardy to general welfare and legal jeopardy. Some 203 critical incidents reported by 78 caretakers of the retarded were analysed. In general the majority of incidents involving jeopardy occurred in the domains of conduct or emotional disturbance (86.7 percent) rather than the domains of skills and abilities (13.3 percent). A disproportionately large number of borderline on mildly retarded persons were involved in these incidents, concerned in the main with jeopardy to health and safety in addition to incidents in the area of legal jeopardy. The severe to profoundly retarded group were also over represented in incident reports. Analysis of the data showed that the number of children and adolescents was disproportionately large in comparison with adult clients. In general the community-placed mentally retarded person jeopardised himself for 79 percent of the reported incidents while members of the community at large were jeopardised in only 9 percent of incidents. Nihira and Nihira (1975) present a series of proposals for improved supervision, review, support and classification of normalisation aim by the community services for their clients in community settings.

Eyman and Call (1979) observed that the previous decade had seen an accelerating trend toward deinstitutionalisation and a commensurate emphasis on community based services for mentally retarded persons. The philosophy of residential provision had given way to the principle of normalisation associated with the phasing out of large institutions and the corresponding development of smaller facilities in the community. Nonetheless a sizable number of institutions appeared to remain unaffected by this development, presumably because their residents could not be relocated in community settings. As noted by Windle (1962) one major obstacle to successful community placement has been the range of behaviour

problems associated with mentally retarded persons. Sternlicht and Deutsch (1972) summarised a number of studies supporting the view that "bad conduct or character defects" account for the majority of community failures in the relocated mentally retarded person. Eyman and Call (1977) investigated the prevalence of behaviour problems in community and institutional settings with respect to their relationship to sex, age, mental retardation level and race.

Information on behaviour problems was obtained on eleven variables from Part II of the Adaptive Behavior Scale on 6,870 clients. All items yielded reliabilities in excess of .70. The most pronounced relationship with behaviour problems concerned level of retardation. The greater the severity of retardation the more likely that a behaviour problem was present. The exception was the use of profane language, rebelliousness and being untrustworthy. Males presented more behaviour problems associated with sex than females.

There was a much higher prevalence of behaviour problems in institutions in contrast to community placements. The exception to this finding was in respect of the relatively low prevalence of behaviour problems in the younger profoundly retarded persons, irrespective of residence. Stereotyped behaviour was the most frequent problem among the institutionalised profoundly retarded persons. The older more moderately retarded institutionalised individuals were likely to do physical violence, use profane language and be rebellious and untrustworthy. Among institutionalised children self-destructive and aggressive behaviour was very evident at the level of moderate and severe retardation. Eyman and Call (1977) suggest that deinstitutionalisation may not be possible in many instances unless these behaviours can either be eliminated or controlled. The provision of special community homes whose staff would tolerate and accommodate such behaviour would not seem a practical strategy for the majority of such persons.

In a follow-up study Eyman, Borthwick, and Miller (1981) examined the trend of maladaptive behavior over a 3 year period in mentally retarded persons referred and placed in community or institutional settings when preplacement maladaptive behaviour was controlled. Eleven variables from Part II of the ABS tapping the factors of Personal and Social Maladaptation were combined to produce an overall score. Data were obtained at intake and after 2 years of

receiving services. Analysis of variance was used to examine the relationship between the three independent variables of age group, level of retardation and placement of the repeated dependent measure maladaptive behaviour.

The analysis found that whatever type of maladaptive behaviour is present at time of placement is likely to persist regardless of the clients age group, level of retardation and type of placement.

Institutionalised clients showed more maladaptive behaviour than did those persons located in community placements, though the profoundly retarded clients were the most deviant group in the community and the least in the institution. Thus the less retarded individuals admitted to the institution had the most maladaptive behaviour in contrast to their counterparts in the community who showed much less maladaptive behaviour. In general older clients showed more maladaptive behaviour.

Eyman, Borthwick and Miller (1981) conclude that institutions do not produce maladaptive behaviour as far as their results are concerned. On the other hand the institutional staff did not seem to have an effective way of significantly reducing maladaptive behaviour among the residents.

Aanes and Moen (1976) reported Adaptive Behavior Scale data from 46 mentally retarded persons living in 10 group homes. Level of retardation ranged from the severe to profound category. The Adaptive Behavior Scale was completed twice, with an interval of a year, in order to evaluate the nature and direction of change in adjustment and level of functioning, though no Part II data were gathered. In the domain of Independent Functioning four of the eight subdomains, Eating Skills, Cleanliness, Appearance and Care of Clothing showed significantly improved performance. Significantly increased performance was also found in the subdomains of Kitchen Duties, Speaking and Writing, General Language Development, Self-Direction and Socialisation. Absence of change in the remaining subdomains of Independent Functioning was in part attributable to the residents having initially obtained 95 percent of total change points in the subdomains of toilet use and dressing and undressing. No significant difference was found in the area of economic activity where scores in the subdomain showed the residents to be functioning at quite a low level. Only 50 percent of total possible score was found in the subdomain of occupation (domestic) involving room and

clothes care, while a similar relatively low rating of 55 percent of total score was obtained in the area of table setting, table cleaning and basic food preparation.

Aanes and Moen observe that if the data are reliable, clear programming needs can be identified through the low level of functioning reported in some subdomains in which an adequate degree of "head-room" for rating change exists. The authors indicate that there is a need for quantitative assessment of community placement programmes for the mentally retarded of which group homes are but one type. Assessments and evaluations of group homes for the mentally retarded need strong quantitative designs to aid in validation of subjective evaluative efforts.

Aninger and Bolinsky (1977) assessed the effects of moving from an institutional setting to a more independent environment on 18 mentally retarded adults between the ages of 21 and 56. Adaptive Behavior Scale data, the Burkes Behavior Rating Scales and personal interviews were obtained before the move from the private residential facility and after 6 months in the transitional setting, prior to deinstitutionalisation. Measured intelligence ranged from WAIS IQ values of 84 to 39 in the group.

The most significant result of the study was that while none of the group could be immediately deinstitutionalised they were found to live successfully in a more independent living setting. Apparently living in that setting did not help them to function more independently as measured by the Adaptive Behavior Scale, the Burkes Behavior Rating Scales (designed for use with non-retarded persons) or the personal interview. Analysis of the data showed that IQ did not play a role in the residents adaptation to the new environment. McCarver and Craig (1973) had similarly concluded that levels of measured intelligence did not appear to have a relationship to the ability to adapt to a semi-independent living environment. Results obtained by Aninger and Bolinsky showed that adults in the Low IQ group (56-39) were as successfully adapted to their setting as were those in the High IQ group (84-61). These authors concluded however that while this type of living setting provides an alternative to the institution, or to life in the community without help, it is not of itself a transition to completely independent living. The personal interviews indicated how much both sexes had looked forward to the move and how happy they were with it after transfer. Their

perceptions of independent living failed to show a difference from the time they were in the institution to six months after they had lived in apartments. No-one expressed the slightest desire to return to their living unit in the institution but no-one in the group showed any interest in moving to live independently. Aninger and Bolinsky (1977) note that if the residents were released from this semi-protective environment they would not be capable of the behaviours necessary to be called an independent person.

Further afield Upadhyaya (1977) reported studies (Upadhyaya 1974, Upadhyaya and Borikar 1974) of the use of the Adaptive Behavior Scale in an Indian rehabilitation project for the mentally retarded. While the limited utility of measured intelligence for designing training programmes was appreciated, the Adaptive Behavior Scale could not be used before changes had been made in various items of Part I to take different cultural patterns into account. These authors report that the Adaptive Behavior Scale was found to be of use in establishing baseline levels of functioning and in monitoring the effectiveness of educational and training programmes. Inter-rater reliabilities established on 32 cases by repeat ratings from two observers after an elapsed six months period were reported for Part I of the scale. Domain rehabilities ranged from .70 for Physical Development to .98 for Number and Time.

Magerotte (1977) related factor-analytic studies of the Adaptive Behavior Scale to the development of individualised training programmes with Belgian special schools. Limited relocation of items within alternative domains was indicated for Part I, though Part II was restructured into eight categories. The Adaptive Behavior Scale Manual was rewritten in simple non-technical language for the use of teachers, and alternative rating, record and intervention sheets prepared. Each of 70 observers was asked to give a written report of two critical incidents (Nihira 1973) for three types of conditions. Firstly behaviour showing that the child did not derive any benefit from classroom or school activities intended to further independence and social adaptation (Type I). Secondly behaviour difficult to tolerate in a normal environment but not causing too much trouble in the classroom or school (Type II). Thirdly behaviour difficult to tolerate both in a normal environment as well as in the classroom or school (Type III). Further information was sought regarding causes of behaviours and degree of environmental tolerance.

In all some 376 critical incidents were reported. Part I items most frequently noted concerned behaviours falling within the areas of Passivity, Perseverance and Toilet Training. Behaviours reported by teachers were with the exception of those relating to Toilet Training, non-specific. Type II behaviours tended to be less disturbing than those reported in Type III but of a higher frequency, such as Hyperactive Tendencies and Unacceptable Vocal Habits. Type III performances were represented by an absolute norm of physical aggressiveness and behaviour hostile to those in authority. Magerotte noted that despite an insistence upon precise description of concrete behaviour and events, most explanations offered were asituational, and did not make any reference to current observable events; the here and now environment was quite absent and the critical behaviours were seen as being inexplicable and unpredictable. The need for the development of a clear behavioural perspective was highlighted.

The importance of situational factors in relation to the behaviour of the mentally retarded was identified by Kennett (1977 a,b). This author noted that as the Adaptive Behavior Scale gains wider use in the evaluation of community based mentally retarded persons so the significance of environmental influences as determiners of adaptive behavior would become increasingly recognised. A number of authors (Baumrind and Black 1967, Kennett 1974) had earlier concluded that the home environment is a most important factor in the development of socially competent behaviour. Kennett (1977a) introduced the Family Behavior Profile, an extension of the Adaptive Behavior Scale, in order to characterise the behaviour patterns of family members which are directly and specifically related to the mentally retarded individual rated on the Adaptive Behavior Scale. Use of two parallel sets of ratings allows the particular family constellation of performance relative to the mentally retarded person to be identified so providing for better understanding of family involvement, competence and pressure within the home setting conceptualised as a learning environment.

In summary the most significant aspect of the concept of mental retardation endorsed by the AAMD (Heber 1961, 1962, Grossman 1973, 1977) has been the introduction of the dual criteria of reduced intellectual functioning and impaired adaptive behaviour. The

introduction of the concept of adaptation into the classificatory process established a view of the retarded person in which the individual's behaviour could be seen as a dynamic, potentially reversible, expression of the norms, expectations and practices of his social environment.

In that conceptualisation retarded behaviour is understood as a relative inability to develop appropriate coping strategies in relation to complex environmental demands, and that such demands vary with time and place. On the view provided by the AAMD to identify a person as retarded is to be required to specify in what matters of daily living behaviour is inadequate. At a conceptual level diagnosis has neither reference to etiology or prognosis but carries rather a clear imperative to establish appropriate intervention objectives, since the development of appropriate coping skills arises through opportunities to learn provided by environmental structure.

The Adaptive Behavior Scale (1974 Revision) can be understood as an expression of the AAMD's dynamic conceptualisation of mental retardation. Though developed within residential institutions it has been used in a wide variety of settings to practical effect and has provided useful insights into the complexities of the social processes involved in the adaptive behavior of retarded clients.

While there can be little doubt that the scale has an immediate practical use in the identification of areas for intervention with the retarded person, neither the AAMD, nor the authors of the scale, appear to have addressed the complex question of how such developmental programming aims are to be achieved. There is therefore in illustration a notable difference between the optimistic view advanced by Leland on behaviour change and deinstitutionalisation (Leland 1975) and the absence of behaviour change or strategies to change behaviour noted by Eyman and Call (1977) and Eyman, Borthwick and Miller (1981).

While this is neither fatal for either the concept of adaptive behaviour or that of reversibility, reflecting rather the inertia of the institutional process this absence highlights both the need for a synthesis of adaptive behaviour measurement with the methods of structure learning by those working with the retarded, as well the importance of such a synthesis at the theoretical level for the AAMD. There can be little doubt that the fusion of the two approaches

would be of material benefit for the mentally handicapped irrespective of age or living setting.

CHAPTER 5: GENERAL METHODS

PART 1: PHYSICAL SETTING

PART 2: SELECTION OF PATIENTS

PART 3: AAMD ADAPTIVE BEHAVIOR SCALE (1974 REVISION)

PART 4: SCALE ADMINISTRATION (GENERAL PROCEDURES)

PART 5: RESEARCH ADMINISTRATION

PART 6: STATISTICAL METHODS: INTER-RATER RELIABILITY

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CHAPTER 5: GENERAL METHODS

PART 1: PHYSICAL SETTING

Gogarburn Hospital is situated approximately six miles to the west of Edinburgh and provides residential accommodation for some 650 mentally handicapped men, women and children. Adults and children are housed within bungalow or villa type units whose administrative designation and function are determined by reference to the residents' age, sex and degree of mental and physical handicap.

Originally established in 1930 as an institution for the certified mentally defective the hospital became part of the National Health Service in 1948 and has been one of the Royal Edinburgh Group of hospitals since 1971. Extensive improvements to existing accommodation and some redevelopment have taken place in recent years. The hospital provides work for approximately 220 residents and day attenders within its Industrial Training Unit. A Recreational Therapy Department offers some 80 sessions a week for residents not capable of industrial activity. All children are able to continue in regular education within the hospital school until eighteen if considered suitable. Simple academic instruction within the context of social education is offered by teachers of the handicapped to those young persons no longer attending school and to adult hospital residents. Evening class activity of a similar character is offered to those adults who are in employment and are unable to attend during the day. Training in domestic, self-help and independent functioning skills is provided within a designated training area for adults in Gogarburn House and is represented in specialised programmes within each ward.

CHAPTER 5: GENERAL METHODS

PART 2: SELECTION OF PATIENTS

In September 1976 the author was asked to provide a method for the identification of suitable child and adult residents for a twenty-four bed training area under construction at Gogarburn Hospital. Following discussion with medical and nursing staff it was agreed that nursing and psychology staff would establish a behavioural assessment on a pool of possible candidates from whom residents could be drawn at a later date. Four administrative areas of the hospital were involved totalling twelve wards. (See Table 5.1).

Table 5.1

Administrative Area	Ward Designation		
Child/Adolescent Unit	15	16	8A
Rehabilitation	7	Gogarburn House	5
Medium Grade	6	12	1
Low Grade	4	4A	11

A brief description of the residents and functions of these wards is set out in Table 5.2.

Table 5.2

Ward	Function
15	Male/female children's ward. Behaviour problems; medium dependency; most short, some long stay.
16	Male/female children's ward. High dependency; long stay in majority.
8A	Male adolescent. Behaviour problems; most short, some long stay.
7	Male rehabilitation. Most short stay; low dependency.
GBNH	Male/female rehabilitation. Low dependency.
5	Female. Behaviour problems; low-medium dependency.
6	Male. Long stay; medium dependency.
12	Male. Long stay; medium dependency.
1	Female. Long stay; medium dependence.
4	Female. Behaviour problems; long stay; high dependency.
4A	Female. Long stay; medium-high dependency.
11	Male. Behaviour problems; long stay; medium-high dependency.

Experienced nursing staff from each ward were asked to put forward the names of their ten most proficient patients. For administrative reasons candidates were not drawn from Ward 5 at this point, leading to the identification of 110 men, women and children from whom selection could be made. Assessment of this group (Sample 1) on the Adaptive Behavior Scale (1974 Revision) took place during the first twelve weeks of 1977. Data, in summary form, were provided for the use of each clinical team concerned and circulated to nursing, medical and lay administrators.

Following this use of the scale it was agreed that the remaining residents in each of the wards concerned, including Ward 5, would be assessed (Sample 2) against the future use of these data for clinical and administrative purposes. This work continued from September 1977 until June 1978. Tables 5.3, 5.4 and 5.5 set out the characteristics of the combined sample with reference to the number of patients in each administrative area and the percentage falling within specified age ranges and age ranges by sex. The 1st January 1977 was used as

a reference point to calculate age and elapsed time since first contact with the hospital service.

Table 5.3

Patient numbers per ward and area

Child/Adolescent		Rehabilitation		Medium Grade		Low Grade	
15	24	7	37	6	56	4	23
16	22	GBNH	31	12	47	4A	21
8A	30	5	40	1	44	11	26
N = 76		N = 108		N = 147		N = 70	

Total N = 401. Males 225. Females 176.

Table 5.4

Percentage sample by age range

Age	0-4	5-15	16-24	25-34	35-44	45-54	55+
%	-	9.2	17.0	26.7	18.0	16.7	12.7
N	-	37	68	107	72	67	50

Mean 35.3 Mode 29.0 Minimum 7 Range 67.0 SD 14.8

Median 32.9 Maximum 74

N = 401

Table 5.5

Table Percentage sample by age range by sex

Age	0-4	5-15	16-24	25-34	35-44	45-54	55+
Male		25	49	52	40	34	25
%		11.1	21.8	23.1	17.8	15.1	11.1
N = 225							
Female		12	19	55	32	33	25
%		6.8	10.8	31.2	18.2	18.7	14.2
N = 176							

Male

Mean	33.6	Mode	17.0	Minimum	7	Range	67
SD	15.1	Median	31.0	Maximum	74		

Female

Mean	37.3	Mode	27.0	Minimum	8	Range	64
SD	14.3	Median	35.5	Maximum	72		

Total N = 401

A comparison of the age distribution of this sample of patients with data provided by Bone, Spain and Martin (1972) from various survey sources is set out in Table 5.6.

Table 5.6

Percentage of patients resident in hospital by age group in various studies

		Age Range						
		0-4	5-15	16-24	25-34	35-44	45-54	55+
Royal Commission	1954	0.7	11.3	20.8	24.3	19.4	16.1	9.4
Joyce Leeson	1959	-	6.3	23.3	19.2	19.5	16.9	12.7
Ministry Census	1963	0.8	11.2	19.8	16.1	16.7	16.2	19.2
Primrose	1964	2.9	12.1	19.3	17.6	15.4	15.5	17.0
Gogarburn	1977	-	9.2	17.0	26.7	18.0	16.7	12.7

Adapted from Bone, Spain and Martin 1972.

Case file data did not allow the calculation of an exact figure of total time spent within the hospital setting. Some adult patients had been repeatedly discharged and readmitted after unspecifiable periods. Table 5.7 shows the percentage distribution of the combined sample on the index of elapsed time (with or without subsequent discharge and readmission) since first contact with the hospital service.

Table 5.7

Elapsed time since first contact with hospital service

	Year Range						
	0-4	5-15	16-24	25-34	35-44	45-54	55+
% Sample	20.7	35.7	23.2	8.2	8.2	4.0	-
N	83	143	93	33	33	16	

Mean	15.9	Mode	4.0	Minimum	<1	Range 54
SD	12.8	Median	13.2	Maximum	53	

Analysis of the distribution of elapsed time since first contact with the hospital service by sex reveals a greater number of males within the smaller year ranges. See Table 5.8.

Table 5.8

Elapsed time since first admission by sex

	Year Range						
Group	0-4	5-15	16-24	25-34	35-44	45-54	55+
Male	57	77	47	20	16	8	-
%	25.3	34.2	20.8	8.9	7.1	3.6	
Female	26	66	46	13	17	8	-
%	14.8	37.5	26.1	7.4	9.7	4.9	

Males

Mean 15 Mode 3.0 Minimum < 1 Range 52
SD 12.5 Median 12.7 Maximum 51
N = 225

Females

Mean 17.0 Mode 5.0 Minimum < 1 Range 54
SD 13.0 Median 14.7 Maximum 53
N = 176

Examination of case files showed that intelligence test data were available on 159 (39.6%) of the combined sample. Patients judged to be formally untestable were categorised within the Severe range of the International Classification of Diseases System (ICD 8). No case was included in the Profound category, though some patients from Wards 4 and 11 very probably function below IQ 20, since tests of intelligence used in the hospitals do not allow such an administrative categorisation to be made. Identification of patients by ICD 8 classification is set out in Table 5.9.

Table 5.9

Sample categorisation by measured intelligence (ICD 8)

Grade of Defect		Percentage Sample	
IQ Range		Tested IQ => 30	Untested plus Tested IQ < 30 - IQ 85
	N	%	%
Not defective 86+	5	3.1	1.2
Borderline 85-68	18	11.3	4.5
Mild 67-52	26	16.3	6.5
Moderate 51-36	69	43.4	17.2
Severe 36-20	41	25.8	70.6
Tested N = 159		Untested plus Tested N = 401	

A description of the total sample reference to ascertained intellectual level and category allocation by ward is set out in Table 5.10.

Table 5.10

Measured Intelligence and Category Allocation by Ward

Ward	15	16	8A	7	GBNH	5
Mean IQ	39.5	-	59.2	55.4	49.4	46.1
SD	10.1	-	20.4	16.7	14.2	10.5
Mode	30.0	-	35.0	43.0	42.0	41.0
Median	36.2	-	51.5	49.5	43.3	43.5
Range	30-63	-	31-92	31-85	30-85	32-68
Tested	19	-	24	30	27	16
IQ <30	5	22	6	7	4	24
N	24	24	30	37	31	40

Ward	6	12	1	4	4A	11
Mean IQ	43.8	42.3	32.3	-	-	31.6
SD	15.3	15.7	2.1	-	-	1.5
Mode	39.0	39.0	30.0	-	-	30.0
Median	38.7	38.7	33.0	-	-	32.0
Range	31-85	30-83	30-34	-	-	30-33
Tested	20	17	4	-	-	3
IQ <30	36	30	41	23	21	23
N	56	47	44	23	21	26

Total N = 401 Tested N = 159 Untested N = 242

CHAPTER 5: GENERAL METHODS

PART 3: AAMD ADAPTIVE BEHAVIOR SCALE (1974 REVISION)

The Adaptive Behavior Scale is described as a behaviour rating scale for mentally retarded, emotionally maladjusted and developmentally disabled individuals. It is designed to provide objective descriptions and evaluations of the individual's adaptive behaviour. Adaptive behaviour is understood to refer primarily to the effectiveness of the individual in coping with the natural and social demands of his or her environment. The scale is designed to provide information on the way the individual maintains his or her personal independence in daily living and how he or she meets the social expectations of the setting in which they live. A copy of the scale is contained in Appendix A.

The scale is organised in two parts. Part I is structured along developmental lines and is designed to evaluate an individual's adaptive skills and habits in ten behavior domains considered important to the development of personal independence in daily living. A behavior domain is defined as a coherent group of related activities. Part I comprises 66 items containing a total of 313 behavioral statements. Items are grouped within 10 domains and 21 subdomains. Table 5.11 sets out the subdomains and domains of Part I.

Part II of the scale is designed to provide measures of maladaptive behaviour related to personality and behaviour disorders. Domain XIV "Use of Medications" while not a behavior domain provides information about a persons adaptation to his environment. Part II comprises 44 items containing a total of 230 behavioral statements grouped into 14 domains. Table 5.12 sets out the domain labels of Part II.

Table 5.11

Adaptive Behavior Scale (1974 Revision) Part I

i. Independent Functioning

- A Eating
- B Toilet Use
- C Cleanliness
- D Appearance
- E Care of Clothing
- F Dressing and Undressing
- G Travel
- H General Independent Functioning

ii. Physical Development

- A Sensory Development
- B Motor Development

iii. Economic Activity

- A Money Handling and Budgeting
- B Shopping Skills

iv. Language Development

- A Expression
- B Comprehension
- C Social Language Development

v. Numbers and Time

vi. Domestic Activity

- A Cleaning
- B Kitchen Duties
- C Other Domestic Activity

vii. Vocational Activity

viii. Self-Direction

- A Initiative
- B Perseverance
- C Leisure Time

Table 5.11 (cont'd)

ix.	Responsibility
x.	Socialisation

Table 5.12

Adaptive Behavior Scale (1974 Revision) Part II

i.	Violent and Destructive Behavior
ii.	Antisocial Behavior
iii.	Rebellious Behavior
iv.	Untrustworthy Behavior
v.	Withdrawal
vi.	Stereotyped Behavior and Odd Mannerisms
vii.	Inappropriate Interpersonal Manners
viii.	Unacceptable Vocal Habits
ix.	Unacceptable or Eccentric Habits
x.	Self-Abusive Behavior
xi.	Hyperactive Tendencies
xii.	Sexually Aberrant Behavior
xiii.	Psychological Disturbances
xiv.	Use of Medications

CHAPTER 5: GENERAL METHODS

Part 4: SCALE ADMINISTRATION (GENERAL PROCEDURES)

The authors of the scale state that it is designed to allow administration by people without a great deal of special training as well as by professionals. Since the ABS data are based on behaviour that can be observed it is suggested that those spending the greatest amount of time with the individual should be consulted. For those living within institutional settings this may involve contacting a number of different staff to obtain all information required.

Three different types of administrative procedures are suggested. Choice of administration remains at the discretion of the individual seeking information.

1. First-person assessment when the individual making the evaluation is both adequately familiar with the handicapped person involved and sufficiently trained to judge the relevance of the scale items, the evaluator completes the scale, item by item.

2. Third party assessment where multiple administrations are required or varied sources of information used, or when the person with the most complete information is insufficiently trained to administer the scale, a "third party" procedure should be followed. This involves asking those providing the information about each item on the scale. This procedure is recommended only when very detailed information is required.

3. Interview method. The interview method is said to be an efficient tool yielding information similar to the third party method but requiring far less time. In this approach the respondents should be very familiar with the handicapped person and the interviewer very familiar with the content and order of the scale. The method is based upon an initial screening of a subdomain by reference to a question specific to it. If the reply is adequate full credit is given and the interviewer proceeds to the next subdomain.

Scoring (General Procedure)

There are three types of item in the scale that require different scoring procedures. In each case the rater determines an item score.

1. The rater selects and circles one of several different statements. The number selected represents the item score and is identified by a unique behavioural description.

2. Some items allow multiple responses. For these each statement positively endorsed yields a score value of one. Some of these items have a negative implication. In these instances each statement endorsed reduces an originally credited score by one.

3. For items of Part II each on the statements within an item may apply "occasionally" or "frequently". One score point is credited for the first and two for the second. Item scores are the sums of these endorsements. Items that do not apply are scored zero. An additional one "other" maladaptive behavior can be specified within the item, by the respondents and rated as applying "occasionally" or "frequently".

CHAPTER 5: GENERAL METHODS

PART 5: RESEARCH ADMINISTRATION

As the ABS has been developed in the United States certain items and behavioural descriptions reflect its North American origin. In illustration Item 2, Eating in Public, which is used to introduce the scale, refers to hamburgers, hot dogs and soda fountains. In order to evaluate the effect of culturally bound terms three independent assessors working within the hospital, a charge nurse, nursing officer and psychologist rated each item statement for ease of comprehension. A limited number of items were jointly considered to give rise to difficulties and were rephrased. (See Appendix B). The objective throughout was to change as few as possible of the item statements consistent with clarity of understanding.

Item presentation

The ABS items were transferred to 8" x 5" file cards. Where items require the rater to "Circle only ONE statement" instructions to the rater to "Select only ONE statement" were substituted on the card. Items in which the rater is instructed to "Check ALL statements which apply" had the alternative instruction "Record ALL statements which apply" substituted at the head of the item. Four sets of file cards were prepared to allow independent ratings to be carried out simultaneously.

A series of record sheets were developed for Parts I and II of the scale. Item and item statements were represented by numbered columns ordered sequentially across record sheets, persons rated by rows. In order to control for scale presentation across raters the standard instructions to raters, set out on Page 1 and 2 of the scale, were expanded to allow monitoring of raters' comprehension of their task. The standardised introductions used for Part I and II are contained in Appendix C.

Raters

In order to evaluate inter-rater reliability three raters provided an independent assessment of each patient within the twelve wards sampled. Raters included either the Ward Charge Nurse or Sister and two other members of staff without reference to grade. Staff were included as raters provided they were judged by supervising staff to know the ward residents well. Table 5.13 relates grade of staff to raters across Sample 1 and 2.

Table 5.13

Raters by grade of staff

Grade		
Charge Nurse	8	
Sister	3	
Staff Nurse	2	
Enrolled Nurse	4	
Nursing Assistant	36	Total 53

Rating Procedure

Wherever possible data were obtained from three raters at the same assessment session. Raters were provided with clip-board and relevant rating sheet. Standardised instructions on method of rating were presented at the initial session and recapitulated at subsequent sessions. Ten patients were rated concurrently on each of the scale items as presented on card as a modified version of the "first person" assessment method. An informal check across rating sessions indicated that on average, approximately 35 minutes were required to complete the evaluation of a single case by the individual rater. Item 44 of Part II "Use of Medications" was not rated as alternative sources of information about prescribed drugs were available if required.

CHAPTER 5: GENERAL METHODS

PART 6: STATISTICAL METHODS; INTER-RATER RELIABILITY

Each case was identified by hospital Unit Number, sex, age, year of birth, year of first admission and rater number. Where available an intelligence quotient from the hospital case file or psychology department records was included. Sets of item ratings for each case were transferred to coding sheets and punched on to IBM 80 column cards. The resulting parallel sets of three ratings on each of 401 cases were then recorded on disk by Edinburgh Regional Computing Centre. The Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner and Bent 1975) was used to calculate Pearson correlation coefficients between item ratings. The resulting 72 estimates of item inter-rater reliability were abstracted, summed and averaged to produce reliability data at the level of the scale item, subdomain and domain. Tables 5.14 and 5.15 give SPSS labels and ABS Parts I and II item names.

Table 5.14

SPSS VARIABLE LABELS AND ABS I ITEM NAMES

ITEMS 1 - 66 *

SPSS	ABS I ITEM NAME
1 UTENSILS	Use of table utensils
2 EATPUB	Eating in public
3 DRINKING	Drinking
4 TABLMNRS	Table manners
5 TOILETTRN	Toilet training
6 SELFTOIL	Self-care at toilet
7 WASHNDFA	Washing hands and face
8 BATHING	Bathing
9 PERSHYGN	Personal Hygiene

* (Items are grouped by subdomain and domain)

Table 5.14 (cont'd)

SPSS VARIABLE LABELS AND ABS I ITEM NAMES	
ITEMS 1 - 66	
SPSS	ABS I ITEM NAME
10 TOOTHBRS	Tooth brushing
11 MENSTRAT	Menstruation
12 POSTURE	Posture
13 CLOTHING	Clothing
14 CARCLOTH	Care of Clothing
15 DRESSING	Dressing
16 UNDRESS	Undressing at appropriate times
17 SHOES	Shoes
18 SENSDIR	Sense of direction
19 PUBTRANS	Public transportation
20 TELEPHON	Telephone
21 MISINDFN	Miscellaneous independent functioning
22 VISION	Vision
23 HEARING	Hearing
24 BDYBALAN	Body Balance
25 WALKRUN	Walking and running
26 CONTHNDS	Control of hands
27 LIMBFN	Limb function
28 MONHAND	Money handling
29 BUDGET	Budgeting
30 ERRANDS	Errands
31 PURCHSE	Purchasing

Table 5.14 (cont'd)

SPSS VARIABLE LABELS AND ABS I ITEM NAMES	
ITEMS 1 - 66	
SPSS	ABS I ITEM NAME
32 WRITING	Writing
33 PREVERB	Preverbal expression
34 ARTIC	Articulation
35 SENTENCE	Sentences
36 WORDUSE	Word usage
37 READING	Reading
38 CMPLXINS	Complex instructions
39 CONVERS	Conversation
40 MISLGDEV	Miscellaneous Language development
41 NUMBERS	Numbers
42 TIME	Time
43 TIMECON	Time Concept
44 RMCLEAN	Room cleaning
45 LAUNDRY	Laundry
46 TBLSETT	Table setting
47 FOODPRP	Food preparation
48 TBCLEAR	Table clearing
49 GNDOMACT	General Domestic Activity
50 JOBCOM	Job complexity
51 JOBPERFM	Job performance
52 WRKHBS	Work habits
53 INIATIV	Initiative
54 PASSIVITY	Passivity

Table 5.14 (cont'd)

SPSS VARIABLE LABELS AND ABS I ITEM NAMES	
ITEMS 1 - 66	
SPSS	ABS I ITEM NAME
55 ATTENTN	Attention
56 PERSIST	Persistence
57 LETIMACT	Leisure time activity
58 PERSBLNG	Personal belongings
59 GENRESP	General responsibility
60 COOP	Cooperation
61 CONSIDER	Consideration for others
62 AWARNESS	Awareness of others
63 INTACOT	Interaction with others
64 PRTGPACT	Participation in group activities
65 SELFISH	Selfishness
66 SOCMAT	Social maturity

Table 5.15

SPSS VARIABLE LABELS AND ABS II ITEM NAMES	
ITEMS 1 - 43 *	
SPSS	ABS II ITEM NAME
1 THRVIOL	Threatens or does physical violence
2 DAMAGPP	Damages personal property
3 DAMAGOP	Damages others property
4 DAMPUBP	Damages public property
5 TEMPTAN	Has violent temper or temper trantrums

* (Items are grouped by subdomain and domain)

Table 5.15 (cont'd)

SPSS VARIABLE LABELS AND ABS II ITEM NAMES	
ITEMS 1 - 43	
SPSS	ABS II ITEM NAME
6 TEAGOSS	Teases or gossips about others
7 BOSMANIP	Bosses and manipulates others
8 DISRUPT	Disrupts others activities
9 INCONSID	Is inconsiderate of others
10 DISRESOP	Shows disrespect for others property
11 ANGLANG	Uses angry language
12 IGNREG	Ignores regulations or regular routines
13 RESINST	Resists following instructions, requests of orders
14 IMPATT	Has impudent or rebellious attitude toward authority
15 ABSENT	Is absent from or late for the proper assignments or places
16 RUNS	Runs away or attempts to run away
17 MISBEHAV	Misbehaves in group settings
18 TAKEOP	Takes others' property without permission
19 LIECHEAT	Lies or cheats
20 INACTIV	Is inactive
21 WITHDRN	Is withdrawn
22 SHY	Is shy
23 STEREO	Has stereotyped behaviors
24 ODDMANN	Has peculiar or odd mannerisms
25 INAPPINT	Has inappropriate interpersonal manners
26 DISTVOC	Has disturbing vocal or speech habits
27 UNACPTHB	Has strange and unacceptable habits
28 UNACTOR	Has unacceptable oral habits
29 REMCLOTH	Removes or tears off own clothing
30 ECCENHAB	Has other eccentric habits and tendencies

Table 5.15 (cont'd)

SPSS VARIABLE LABELS AND ABS II ITEM NAMES	
ITEMS 1 - 43	
SPSS	ABS II ITEM NAME
31 PHYSVIOL	Does physical violence to self
32 HYPTEND	Has hyperactive tendencies
33 INAPMAST	Engages in inappropriate masturbation
34 EXPRDY	Exposes body improperly
35 HOMSEX	Has homosexual tendencies
36 UNSEXBEH	Sexual behavior that is socially unacceptable
37 OVERABL	Tends to overestimate own abilities
38 REACRIT	Reacts poorly to criticism
39 REAFRU	Reacts poorly to frustration
40 EXATTEN	Demands excessive attention or praise
41 FEELPER	Seems to feel persecuted
42 HYPOTEND	Has hypochondriacal tendencies
43 EMOTINS	Has other signs of emotional instability

CHAPTER 5: GENERAL METHODS

PART 7: FACTOR ANALYSIS

Sets of independent transferred ratings were pooled to produce average item ratings for each case. These were entered on to coding sheets with identifying case data, transferred to IBM 80 column punch cards and put on disk by Edinburgh Regional Computing Centre. A separate factor analysis was carried out on Part I and II of the ABS as SPSS has an input restriction of 100 variables on its factor programmes. The 66 items of Part I, the 43 items of Part II and the 23 scale domains were analysid using subprogram Factor 2 (Nie, Hull, Jenkins, Steinbrenner and Bent 1975) that included

1) a principal-component analysis (PAI)
2) selection of factors for subsequent analysis based on components having eigen values of 1 or greater
3) an initial factor solution using principal factoring with interation, and
4) selection of terminal factors by rotating the initial factors orthogonally to a varimax solution (PA2).

Following Nihira (1969 a,b) scores were dichotomised at or near the median before analysis. Factor scales were prepared from items loading at or above .3000 in the rotated factor matrix.

CHAPTER 5: GENERAL METHODS

PART 8: DEMOGRAPHIC DATA

Pooled, averaged ratings were analysed across wards using the SPSS Frequencies programme. Frequency distributions and measures of central tendency were calculated for scale item, subdomains and domain scores. Tables displaying these measures for the twelve wards in the sample were prepared. For comparative purposes Profile Summary sheets were drawn up for each ward on Parts I and II of the scale using rounded average domain scores. The Profile Summary sheet is designed to provide a visual profile of an individual or group with reference to age related national norms for mentally retarded persons in United States institutions. Ward average age was used therefore in the preparation of each profile.

CHAPTER 6: RESULTS

PART 1: INTER-RATER RELIABILITIES

PART 2: FACTOR DIMENSIONS

PART 3: FACTOR SCALES

PART 4: SELECTED PROFILE SUMMARIES (ABS PART I)

PART 5: PROFILE SUMMARIES (ABS PART II)

CHAPTER 6: RESULTS

PART 1: INTER-RATER RELIABILITIES

Table 6.1 sets out the averaged inter-rater reliability coefficients for the 10 domains of Part I of the Adaptive Behavior Scale. These were calculated from a maximum of 72 reliability estimates for each of the 66 items of Part I. Item reliability estimates for each of these domains are contained in Appendix D and cross tabulated by ward sample and administrative area. All domain reliabilities are lower than those reported for the 1974 Revision of the Scale (Nihira et al. 1974), producing a mean scale reliability of .61. The reliability estimate of .46 for the domain of Self-Direction marks the lower bound of the range of reliabilities, while the highest value is achieved in the domain of Numbers and Time.

Table 6.1

MEAN INTER-RATER RELIABILITIES ABS I

DOMAINS	MEAN RELIABILITY
i. INDEPENDENT FUNCTIONING	.598
ii. PHYSICAL DEVELOPMENT	.675
iii. ECONOMIC ACTIVITY	.629
iv. LANGUAGE DEVELOPMENT	.625
v. NUMBERS AND TIME	.682
vi. DOMESTIC ACTIVITY	.613
vii. VOCATIONAL ACTIVITY	.660
viii. SELF-DIRECTION	.461
ix. RESPONSIBILITY	.616
x. SOCIALISATION	.507
MEAN RELIABILITY PART I N = 401	.607

Table 6.2 compares these findings with those reported from five other studies. Examination of these data show that the

reliability estimates obtained in this study fall above the values reported by Hickman (1977) in the domains of Independent Functioning, Physical Development, Language Development, Vocational Activity, Responsibility and Socialisation. The value obtained for the domain of Physical Development is higher than that recorded by Nihira (1969a) and Isett and Spreat (1979), which the estimates obtained for the domains of Economic Activity and Responsibility are close to those obtained by Nihira (1969a) and Upadhyaya (1977) respectively. In all, domain inter-rater reliability values present little variation across domains in contrast to the range obtained by other investigators.

Table 6.2

MEAN INTER-RATER RELIABILITIES ABS PART I

DOMAIN	NIHIRA 1969a	NIHIRA 1974	UPADHYAYA 1977	HICKMAN 1977*	ISETT&SPREAT 1979	CULL 1980
INDEPENDENT FUNCTIONING	.86	.92	.93	.39	.91	.60
PHYSICAL DEVELOPMENT	.43	.93	.70	.21	.42	.67
ECONOMIC ACTIVITY	.64	.85	.82	.66	.90	.63
LANGUAGE DEVELOPMENT	.83	.87	.96	.36	.93	.62
NUMBERS AND TIME	.76	.86	.98	.71	.90	.68
DOMESTIC ACTIVITY	.81	.91	.70	-	.87	.61
VOCATIONAL ACTIVITY	.76	.78	.78	.12	.70	.66
SELF-DIRECTION	.68	.71	.84	.49	.64	.46
RESPONSIBILITY	.75	.83	.61	.51	.68	.62
SOCIALISATION	.69	.77	.95	.48	.61	.51
MEAN	.74	.86	.83	.44	.76	.61
NUMBER OF CASES	47	133	32	90	29	401

* Public School Version

Table 6.3 presents inter-rater reliability values for Part I domains, cross tabulated by administrative area. Though areas contain

heterogeneous groups of patients average reliabilities by area show consistently higher reliabilities for the Child and Adolescent Unit and the high dependency or Low grade area. This suggests that the smaller number of patients in these wards contributes systematically to a more uniform appreciation among raters of the individual behavioural performance of their residents, both in terms of what is accepted to be beyond the individual's capabilities, as in the domain of Number and Time in the Low grade area, or through specific information about such competences, as in the Child and Adolescent Unit.

Table 6.3

MEAN INTER-RATER RELIABILITIES BY AREA ABS I

DOMAINS	MEAN RELIABILITIES			
	CHILD/ADOL	REHAB	MEDIUM	LOW
i INDEPENDENT FUNCTIONING	.620	.573	.579	.621
ii PHYSICAL DEVELOPMENT	.749	.642	.558	.751
iii ECONOMIC ACTIVITY	.684	.597	.432	.804
iv LANGUAGE DEVELOPMENT	.715	.578	.467	.740
v NUMBERS AND TIME	.774	.619	.499	.835
vi DOMESTIC ACTIVITY	.667	.620	.481	.685
vii VOCATIONAL ACTIVITY	.822	.427	.589	.801
viii SELF-DIRECTION	.529	.433	.391	.491
ix RESPONSIBILITY	.726	.533	.473	.731
x SOCIALISATION	.588	.432	.423	.586
MEAN RELIABILITY	.687	.545	.489	.704

Table 6.4 and its continuations sets out the 21 subdomains of Part I cross tabulated by administrative area. Where the number of ward residents is highest as in the three Medium grade wards, some subdomain items are likely to be "No opportunity" items as far as many of the individual patients are concerned, so leading to a

higher degree of rater uncertainty when estimating level of performance, than in other parts of the scale. This additional factor may have been of influence in, for example, the constituent subdomains of Economic Activity and Domestic Activity, which contain items involving activities tending to be outside the normal run of events in large wards.

Table 6.4

MEAN INTER-RATER RELIABILITIES BY AREA ABS I

INDEPENDENT FUNCTIONING SUBDOMAINS A, B, C, D, E, F, G, H

SUBDOMAIN	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
EATING	.660	.565	.492	.583	.575
TOILET USE	.560	.440	.725	.672	.599
CLEANLINESS	.581	.532	.484	.573	.542
APPEARANCE	.529	.248	.337	.376	.372
CARE/CLOTHING	.667	.624	.564	.577	.608
DRESS/UNDRESS	.580	.812	.807	.621	.705
TRAVEL	.680	.700	.541	.831	.688
OTHER INDEP. FUNCTIONING	.709	.667	.683	.735	.698
ALL	.620	.573	.579	.621	.598

PHYSICAL DEVELOPMENT: SUBDOMAINS SENSORY/MOTOR

SENSORY	.798	.589	.620	.909	.727
MOTOR	.700	.695	.496	.593	.621
ALL	.749	.642	.558	.751	.675

ECONOMIC ACTIVITY: MONEY HANDLING/BUDGETING; SHOPPING SKILLS

MONEY	.607	.600	.444	.856	.627
SHOPPING	.762	.595	.421	.751	.632
ALL	.684	.597	.432	.804	.629

Table 6.4 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS I					
LANGUAGE DEVELOPMENT: EXPRESSION, COMPREHENSION, SOCIAL					
SUBDOMAIN	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
EXPRESSION	.767	.613	.565	.769	.678
COMPREHENSION	.681	.603	.379	.743	.601
SOCIAL	.696	.519	.459	.708	.595
ALL	.715	.578	.467	.740	.625
DOMESTIC ACTIVITY: CLEANING, KITCHEN DUTIES, OTHER DUTIES					
CLEANING	.606	.499	.480	.719	.576
KITCHEN	.710	.667	.376	.605	.589
OTHER	.685	.692	.586	.732	.674
ALL	.667	.620	.481	.685	.613
SELF-DIRECTION: INITIATIVE, PERSEVERANCE, LEISURE TIME					
INITIATIVE	.439	.279	.289	.402	.352
PERSEVERANCE	.460	.434	.366	.435	.424
LEISURE TIME	.688	.587	.518	.637	.607
ALL	.529	.433	.391	.491	.461

Specific item reliability estimates for Part I of the scale are set out in Table 6.5 and its continuations. Each item reliability is the average of a maximum of 18 estimates obtained from the three wards within each area. Examination of the variation within the subdomain organisation into which the 66 items are grouped supports the view that reduced reliability arises, in part, from the absence of concrete evidence on which raters can base their evaluations. In illustration within the subdomain structure of Eating, Medium grade wards agree far less often in relation to their patients level of performance in

relation to the item Eating in Public than they do in relation to the other items of the subdomain.

While specific item reliabilities show substantial variation across ward areas, the outcome reported here would appear, at first sight to support the view that the modified "first person" assessment method was heavily implicated in the lower levels of inter-rater reliability found for Part I. The results for Part II which are consistent with previous findings do not support that interpretation however, suggesting rather that in the absence of prior training in the type of items contained in the scale reliabilities found with the standard first-person assessment may well be more modest than earlier reliability studies had indicated when the scale is used in the heterogeneous population of the mental deficiency hospital.

Table 6.5

MEAN INTER-RATER RELIABILITIES BY AREA ABS I

ITEMS 1 - 66 * ITEMS GROUPED BY SUBDOMAIN

	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
1	UTENSILS	.612	.489	.522	.632	.564
2	EATPUB	.815	.593	.202	.674	.571
3	DRINKING	.638	.706	.667	.520	.637
4	TABLMNRS*	.576	.473	.579	.508	.534
5	TOILETRN	.494	.362	.691	.696	.561
6	SELFTOIL	.626	.518	.760	.647	.638
7	WASHNDFA	.635	.681	.704	.717	.684
8	BATHING	.618	.647	.477	.797	.635
9	PERSHYGN	.159	.282	.273	.306	.253
10	TOOTHBRS	.526	.458	.277	.495	.439
11	MENSTRAT	.964	594	.690	.554	.700
12	POSTURE	.653	.247	376	.471	437
13	CLOTHING	406	.248	.298	.281	.308
14	CARCLOTH	667	624	564	577	608

Table 6.5 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS I

ITEMS 1 - 66

	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
15	DRESSING	.710	.718	.817	.675	.730
16	UNDRESS	.465	.849	.747	.507	.642
17	SHOES	.565	.871	.857	.682	.744
18	SENSDIR	.535	.698	.363	.662	.565
19	PUBTRANS	.825	.695	.719	1.000	.809
20	TELEPHON	.810	.673	.769	.887	.784
21	MISINDFN	.608	.662	.507	.584	.590
22	VISION	.860	.538	.524	.869	.698
23	HEARING	.721	.640	.715	.945	.758
24	BDYBALAN	.466	.540	.340	.560	.477
25	WALKRUN	.689	.509	.417	.288	.476
26	CONTHNDS	.664	.733	.348	.525	.568
27	LIMBFN	.983	1.000	.879	1.000	.965
28	MONHAND	.478	.482	.470	.739	.542
29	BUDGET	.735	.717	.419	.974	.711
30	ERRANDS	.823	.586	.384	.820	.653
31	PURCHSE	.701	.603	.457	.683	.611
32	WRITING	.837	.561	.567	.914	.720
33	PREVERB	.943	.898	.983	.767	.900
34	ARTIC	.577	.596	.397	.585	.539
35	SENTENCE	.697	.557	.438	.744	.609
36	WORDUSE	.783	.455	.441	.836	.629
37	READING	.790	.592	.422	.814	.655
38	CMPLXINS	.572	.614	.337	.672	.548

Table 6.5 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS I					
ITEMS 1 - 66					
ITEM		CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
39	CONVERS	.713	.399	.540	.811	.616
40	MISLGDEV	.679	.640	.377	.606	.575
41	NUMBERS	.771	.475	.474	.743	.616
42	TIME	.815	.553	.536	.916	.705
43	TIMECON	.736	.829	.487	.846	.725
44	RMCLEAN	.577	.544	.433	.685	.560
45	LAUNDRY	.636	.455	.527	.753	.593
46	TBLSETT	.736	.596	.475	.720	.632
47	FOODPRP	.767	.570	.295	.360	.498
48	TBCLEAR	.628	.836	.357	.734	.639
49	GNDOMACT	.685	.692	.587	.732	.674
50	JOBCOM	.719	.618	.814	.921	.768
51	JOBPERFM	.954	.246	.352	.682	.558
52	WRKHBS	.792	.417	.602	.800	.653
53	INIATIV	.591	.325	.266	.485	.417
54	PASSIVITY	.288	.233	.312	.320	.288
55	ATTENTN	.455	.537	.410	.593	.499
56	PERSIST	.465	.330	.321	.278	.349
57	LETIMACT	.688	.587	.518	.637	.607
58	PERSBLNG	.766	.603	.513	.630	.628
59	GENRESP	.687	.463	.433	.833	.604

Table 6.5 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS I

ITEMS 1 - 66

	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
60	COOP	.582	.499	.378	.731	.548
61	CONSIDER	.714	.368	.473	.749	.576
62	AWARNESS	.739	.579	.346	.574	.559
63	INTACOT	.476	.534	.451	.571	.508
64	PRTGPACT	.614	.498	.611	.502	.556
65	SELFISH	.439	.256	.354	.383	.358
66	SOCMAT	.556	.293	.351	.591	.448

Table 6.6 sets out the domain reliabilities for Part II of the scale. Part II item reliabilities are contained in Appendix E. Domain estimates show a greater degree of variation than did those for those of Part I, ranging from .385 for Inappropriate Interpersonal Manners to .724 for Untrustworthy behavior. Mean reliability for Part II is .546. Published inter-rater reliability studies for Part II are fewer in number than for Part I. Table 6.7 compares average domain reliabilities from this study with those obtained from three previous studies. Values shown under Nihira (1969a, 1974) are reliabilities published with the 1969 and 1974 Revision of the Adaptive Behavior Scale. Five out of the 13 domains evaluated in this study yielded reliabilities marginally higher than those reported for Part II of the scale by Nihira (1974). A similar result obtains in relation to six domains when compared with the study reported by Isett and Spreat (1979). Mean Part II Scale reliabilities show great stability across these three studies, indicating that the more modest domain reliabilities obtained in this present study for Part I are unlikely to be attributable to the method of scale administration used.

Table 6.6

MEAN INTER-RATER RELIABILITY ABS II

	DOMAINS	MEAN RELIABILITY
i	VIOLENT AND DESTRUCTIVE BEHAVIOUR	.551
ii	ANTISOCIAL BEHAVIOUR	.618
iii	REBELLIOUS BEHAVIOUR	.564
iv	UNTRUSTWORTHY BEHAVIOUR	.724
v	WITHDRAWAL	.508
vi	STEREOTYPED BEHAVIOUR AND ODD MANNERISMS	.542
vii	INAPPROPRIATE INTERPERSONAL MANNERS	.385
viii	UNACCEPTABLE VOCAL HABITS	.440
ix	UNACCEPTABLE OR ECCENTRIC HABITS	.543
x	SELF-ABUSIVE BEHAVIOUR	.492
xi	HYPERACTIVE TENDENCIES	.565
xii	SEXUALLY ABERRANT BEHAVIOUR	.665
xiii	PSYCHOLOGICAL DISTURBANCES	.505
	MEAN RELIABILITY PART II N = 401	.546

Table 6.7

MEAN INTER-RATER RELIABILITIES ABS PART II

DOMAINS	NIHIRA 1969a	NIHIRA 1974	ISETT & SPREAT 1979	CULL 1980
VIOLENT AND DESTRUCTIVE	.79	.59	.44	.55
ANTISOCIAL BEHAVIOR	.84	.68	.68	.62
REBELLIOUS BEHAVIOR	.66	.55	.52	.56
UNTRUSTWORTHY BEHAVIOR	.79	.69	.32	.72
WITHDRAWAL	.40	.44	.61	.51
STEREOTYPED/ODD MANNERISMS	.40	.62	.84	.54
INAPPROPRIATE INTERPERSONAL	.40	.47	.50	.38
INAPPROPRIATE VOCAL	.41	.37	.34	.44
UNACCEPTABLE/ECCENTRIC	.72	.57	.68	.54

Table 6.7 (cont'd)

MEAN INTER-RATER RELIABILITIES ABS PART II				
DOMAINS	NIHIRA 1969a	NIHIRA 1974	ISETT & SPREAT 1979	CULL 1980
SELF-ABUSIVE	.75	.49	.65	.49
HYPERACTIVE	.47	.57	.60	.56
SEXUALLY ABERRANT	.50	.52	.61	66
PSYCHOLOGICAL DISTURBANCES	.60	.45	.46	.50
USE OF MEDICATION	.49	.77	-	-
MEAN	.61	.57	.56	.55
MEAN FOR SCALE	.67	.71	.66	.58
NUMBER OF CASES	47	133	29	401

Table 6.8 displays domain reliability estimates by administrative area, while in the absence of a subdomain structure for Part II of the scale Table 6.9 and its continuations set out in the inter-rater reliabilities by item and area. Examination of Table 6.8 shows that while substantial variation occurs across domain reliabilities within specific administrative areas mean Part II domain reliabilities are more consistent that those for Part I displayed in Table 6.3. The overall mean reliability for the Adaptive Behavior Scale is .58, reflecting the lower value obtained for Part I in this study.

Table 6.8

MEAN INTER-RATER RELIABILITIES BY AREA ABS II

DOMAINS		MEAN RELIABILITIES			
		CHILD/ADOL	REHAB	MEDIUM	LOW
i	VIOLENT/DESTRUCTIVE	.544	.600	.510	.550
ii	ANTISOCIAL	.609	.632	.568	.664
iii	REBELLIOUS	.519	.641	.592	.506
iv	UNTRUSTWORTHY	.713	.739	.625	.820
v	WITHDRAWAL	.671	.403	.410	.547
vi	STEREOTYPED/ODD MANNERISMS	.448	.633	.620	.469
vii	INAPPROPRIATE INTERPERSONAL	.375	.311	.449	.407
viii	UNACCEPTABLE VOCAL	.425	.440	.468	.427
ix	UNACCEPTABLE/ECCENTRIC	.544	.564	.523	.544
x	SELF-ABUSIVE	.447	.356	.655	.510
xi	HYPERACTIVE	.645	.513	.624	.477
xii	SEXUALLY ABERRANT	.589	.727	.675	.670
xiii	PSYCHOLOGICAL DISTURBANCES	.481	.516	.429	.595
	MEAN RELIABILITY	.539	.544	.550	.553

Table 6.9

MEAN INTER-RATER RELIABILITIES BY AREA ABS II

ITEMS 1 - 43 * ITEMS ARE GROUPED WITHIN DOMAINS

	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
1	THRVIOL	.650	.634	.551	.663	.624
2	DAMAGPP	.570	.715	561	.550	.599
3	DAMAGOP	.420	.495	.539	.333	.447
4	DAMPUBP	.582	.634	.522	.633	.593
5	TEMPTAN*	.500	.522	.379	.569	.492

Table 6.9 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS II						
ITEMS 1 - 43						
	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
6	TEAGOSS	.661	.747	.508	.751	.667
7	BOSMANIP	.647	.728	.549	.709	.658
8	DISRUPT	.469	.546	.532	.511	.515
9	INCONSID	.652	.521	.472	.627	.568
10	DISRESOP	.421	.606	.652	.625	.576
11	ANGLANG	.806	.645	.693	.759	.726
12	IGNREG	.408	.559	.646	.345	.489
13	RESINST	.357	.482	.556	.313	.427
14	IMPATT	.408	.628	.603	.538	.544
15	ABSENT	.741	.764	571	.518	.648
16	RUNS	.714	.820	.791	.915	.810
17	MISBEHAV	.484	.597	.388	.410	.470
18	TAKEOP	.691	.785	.643	.770	.722
19	LIECHEAT	.735	.693	.608	.869	.726
20	INACTIV	.735	.454	.518	.562	.567
21	WITHDRN	.715	.351	.248	.616	.482
22	SHY	.562	.406	.463	.464	.474
23	STEREO	.540	.632	.559	.553	.571
24	ODDMANN	.356	.633	.680	.385	.513
25	INAPPINT	.375	.311	.449	.494	.407
26	DISTVOC	.425	.440	.468	.427	.440
27	UNACPTHB	.490	.418	.320	.550	.444
28	UNACTOR	.596	.366	.580	.559	.525
29	REMCLOTH	520	.851	.830	.658	.715
30	ECCENHAB	.570	.623	.362	.405	.490

Table 6.9 (cont'd)

MEAN INTER-RATER RELIABILITIES BY AREA ABS II						
ITEMS 1 - 43						
	ITEM	CHILD/ADOL	REHAB	MEDIUM	LOW	ALL
31	PHYSVIOL	.447	.356	.655	.581	.510
32	HYPTEND	.645	.513	.624	.477	.565
33	INAPMAST	.547	.869	.838	.751	.751
34	EXPBDY	.592	.715	.701	.664	.668
35	HOMSEX	.643	.815	.637	.726	.705
36	UNSEXBEH	.574	.508	.523	.623	.557
37	OVERABL	.504	.529	.096	.836	.491
38	REACRIT	.463	.557	.363	.291	.418
39	REAFRU	.513	.495	.533	.571	.528
40	EXATTEN	.423	.475	.377	.621	.474
41	FEELPER	.556	.702	.473	.893	.656
42	HYPOTEND	.472	.501	.774	.524	.568
43	EMOTINS	.434	.355	.390	.430	.402

CHAPTER 6: RESULTS

PART 2: FACTOR DIMENSIONS

Separate factor analyses were carried out on the 66 items of Part I, 43 items of Part II and 23 domains of the scale. In each a principal components analysis was performed to ascertain the number of factors with eigen values greater than unity, thus satisfying the commonly used Guttman-Kaiser criterion for determining the number of factors. This was followed by a principal factors analysis with, in each case, the appropriate number of factors rotated to a Varimax solution. Orthogonal solutions were sought in preference to oblique ones so as to achieve as parismonious a solution as possible. In attempting to interpret the obtained factors, only items with loadings of .300 or greater were considered.

Table 6.10 presents the rotated factor dimensions for Part I items.

Table 6.10

ABS I ITEMS DEFINING ROTATED FACTOR DIMENSIONS

* ITEMS GROUPED BY DOMAIN	FACTORS					
ITEM	I	II	III	IV	V	VI
TABLE UTENSILS	405	641	226	213	264	111
EATING IN PUBLIC	736	268	305	083	224	094
DRINKING	236	604	229	178	117	137
TABLE MANNERS	151	423	110	199	316	-131
TOILET TRAINING	178	597	309	172	119	274
SELF CARE AT TOILET	175	873	190	174	149	122
WASHING HANDS AND FACE	111	820	218	140	113	080
BATHING	476	540	316	183	344	186
PERSONAL HYGIENE	100	065	205	136	535	075
TOOTH BRUSHING	294	285	364	073	313	112
MENSTURATION	249	168	311	084	-186	301
POSTURE	083	247	060	177	249	130

Table 6.10 (cont'd)

ABS I ITEMS DEFINING ROTATED FACTOR DIMENSIONS

	FACTORS					
ITEM	I	II	III	IV	V	VI
CLOTHING	339	233	081	057	663	-051
CARE OF CLOTHING	377	285	392	119	393	091
DRESSING	345	697	189	236	210	164
UNDRESSING	219	746	207	133	060	321
SHOES	327	633	140	324	171	226
SENSE OF DIRECTION	446	480	322	128	097	183
PUBLIC TRANSPORT	858	066	157	086	091	088
TELEPHONE	836	057	193	018	113	066
MISC INDEPENDENT FUNCTION. *	637	486	313	178	203	085
VISION	002	001	058	-019	-047	098
HEARING	-001	-056	051	057	-040	-049
BODY BALANCE	365	216	288	075	114	543
WALKING AND RUNNING	186	366	152	092	146	706
CONTROL OF HANDS	233	509	284	023	082	409
LIMB FUNCTION	-013	011	-045	-028	-009	335
MONEY HANDLING	793	318	211	158	053	066
BUDGETING	764	082	319	079	127	070
ERRANDS	721	316	296	264	147	073
PURCHASING	566	425	399	307	028	004
WRITING	811	153	050	072	057	109
PREVERBAL EXPRESSION	148	601	117	148	015	-038
ARTICULATION	299	579	069	122	046	-165
SENTENCES	609	438	194	114	183	004
WORD USAGE	603	464	275	172	110	029
READING	812	174	073	138	104	076
COMPLEX INSTRUCTIONS	489	532	239	129	186	062
CONVERSATION	489	418	360	161	182	005
MISC LANGUAGE DEVELOPMENT	665	420	299	222	121	-005

Table 6.10 (cont'd)

ABS I ITEMS DEFINING ROTATED FACTOR DIMENSIONS

	FACTORS					
ITEM	I	II	III	IV	V	VI
NUMBERS	733	303	274	169	102	127
TIME	817	197	089	140	131	026
TIME CONCEPT	579	382	261	231	106	072
ROOM CLEANING	408	206	333	241	411	116
LAUNDRY	565	140	269	152	456	051
TABLE SETTING	566	246	378	104	403	080
FOOD PREPARATION	689	151	348	046	235	099
TABLE CLEARING	476	405	353	229	315	107
GENERAL DOMESTIC ACTIVITY	453	265	415	255	425	096
JOB COMPLEXITY	403	353	155	694	085	060
JOB PERFORMANCE	201	365	121	832	183	072
WORK HABITS	113	316	165	834	149	-017
INITIATIVE	359	378	645	102	054	070
PASSIVITY	256	206	487	371	289	-022
ATTENTION	396	341	621	296	077	107
PERSISTENCE	254	133	524	426	096	016
LEISURE TIME ACTIVITY	536	278	462	118	172	-048
PERSONAL BELONGINGS	344	392	463	283	324	009
GENERAL RESPONSIBILITY	447	327	493	345	233	047
COOPERATION	262	273	590	162	264	053
CONSIDERATION FOR OTHERS	440	100	597	116	294	057
AWARENESS OF OTHERS	483	550	328	096	057	036
INTERACTION WITH OTHERS	322	339	674	117	116	055
PARTICIPATION GROUP ACT.	321	225	678	011	162	141
SELFISHNESS	096	149	224	367	061	-030
SOCIAL MATURITY	-007	391	-042	194	033	001

Table 6.10 (cont'd)

ABS I ITEMS DEFINING ROTATED FACTOR DIMENSIONS						
	FACTORS					
ITEM	I	II	III	IV	V	VI
VARIANCE	14.38	10.34	7.02	4.00	3.34	1.84
PCT OF VARIANCE	35.1	25.3	17.1	9.8	8.2	4.5

Table 6.11 displays those items loading appreciably on Factor I. This factor is defined primarily by items deriving from behaviour domains representing the individual's skills and abilities used to maintain independence in daily living, namely Independent Functioning, Domestic Activity, Language, Numbers and Time, Economic Activity and Self-Direction. More specifically items derive from the subdomains of Travel, Other Independent Functioning, Language Expression and Comprehension, Money Handling and Budgeting, Eating, Shopping Skills, Kitchen, Social Language Development, Room Cleaning, Leisure Time Activities and General Domestic Activities.

Public Transport use indicates a certain practical geographical independence, Use of Telephone, Eating in Public, Time Telling, Reading, Writing, Money Handling and Budgeting, represent a range of functional skills supporting self-sufficiency in community settings. Miscellaneous Language Development, Word Use, Sentences and Conversation represent a wide range of communicative skills in relation to complex social interactions. Miscellaneous Independent Functioning, Table Setting and Clearing, Food Preparation, Laundry and General Domestic Activity, describe performances of immediate relevance to daily life within semi-independent and independent settings. In all items loading on Factor I reflect the attainment of personal independence over and above personal self-help skills and describe a measure of self-sufficiency not only in relation to meeting needs but also in meeting community demands and expectations. For that reason this factor has been labelled Community Self-Sufficiency.

Table 6.11

ABS I FACTOR I COMMUNITY SELF-SUFFICIENCY	
ITEMS	FACTOR LOADINGS
PUBLIC TRANSPORT	858
TELEPHONE	836
TIME	817
READING	812
WRITING	811
MONEY HANDLING	793 (318 II)
BUDGETING	764 (319 III)
EATING IN PUBLIC	736 (305 II)
NUMBERS	733 (303 II)
ERRANDS	721 (316 II)
FOOD PREPARATION	689 (348 III)
MISCELLANEOUS LANGUAGE DEVELOPMENT	665 (420 II)
MISCELLANEOUS INDEPENDENT FUNCTIONING	637 (486 II; 313 III)
SENTENCES	609 (438 II)
WORD USE	603 (464 II)
TIME CONCEPT	579 (382 II)
PURCHASING	566 (425 II; 399 III)
TABLE SETTING	566 (378 III)
LAUNDRY	565 (456 V)
LEISURE TIME ACTIVITY	536 (462 III)
CONVERSATION	489 (418 II; 360 III)
TABLE CLEARING	476 (405 II; 353 III; 315 V)
GENERAL DOMESTIC ACTIVITY	453 (415 III)

Factor II is defined by items representing a more restricted range of skills fundamental to the individual's basic self-sufficiency in matters of daily living. Table 6.12 sets out these items which derive from the domains of Independent Functioning, Language Development and Socialisation. Items are drawn from the subdomains of Toilet Use, Cleanliness, Dressing and Undressing, Eating, Language Expression and Comprehension, Motor Development, Travel and Socialisation.

Table 6.12

ABS I FACTOR II PERSONAL SELF-SUFFICIENCY	
ITEMS	FACTOR LOADINGS
SELF-CARE AT TOILET	873
WASHING HANDS AND FACE	820
UNDRESSING	746 (321 VI)
DRESSING	697 (345 I)
USE OF TABLE UTENSILS	641 (405 I)
SHOES	633 (327 I;324 IV)
DRINKING	604
PREVERBAL EXPRESSION	601
TOILET TRAINING	597 (309 III)
ARTICULATION	597
AWARENESS	550 (483 I; 328 III)
BATHING	540 (476 I; 316 III; 344 V)
COMPLEX INSTRUCTIONS	532 (489 I)
CONTROL OF HANDS	509 (409 VI)
SENSE OF DIRECTION	480 (446 I; 322 III)
SOCIAL MATURITY	391

Self-Care at Toilet, Toilet Training, Washing Hands and Face, Dressing and Undressing, Bathing, Use of Table Utensils, Shoes, Drinking and Control of Hands describe everyday self-care and independence skills which, when present differentiate the low dependency from the high dependency mentally handicapped person. These performances have been described as minimal care skills in independent functioning training programmes discussed by Balthazar (Balthazer and Phillips 1976) and feature in the Adaptive Behavior Checklist (Allen, Cortazzo and Adamo 1970). Items described as Preverbal Expression, Articulation and Complex Instructions characterise a minimal expressive language repertoire accompanied by the ability to understand a measure of complex speech from others. Awareness and Social Maturity suggest the capacity to understand

and remember information concerning socially significant other people and to relate to them in an age appropriate way. For these reasons this factor is labelled Personal Self-Sufficiency suggesting the ability to cope with important regular routines with only limited supervision.

Factor III is defined by items from the domains of Socialisation, Self-Direction, Responsibility and Independent Functioning. In this analysis the leading variables on this factor indicate that outward going socially responsive and cooperative activities are more important than performances which meet expectations of socially responsible behaviour which are also represented on it. For this reason Factor III is described as Social Responsiveness. (See Table 6.13)

Table 6.13

ABS I FACTOR III SOCIAL RESPONSIVENESS	
ITEMS	FACTOR LOADINGS
PARTICIPATION IN GROUP ACTIVITIES	678 (321 I)
INTERACTION WITH OTHERS	674 (339 II; 332 I)
INITIATIVE	645 (378 II; 359 I)
ATTENTION	621 (396 I; 341 II)
CONSIDERATION FOR OTHERS	597 (440 I)
COOPERATION	590
PERSISTENCE	524 (426 IV)
GENERAL RESPONSIBILITY	493 (447 I; 345 IV; 327 II)
PASSIVITY	487 (371 IV)
PERSONAL BELONGINGS	463 (392 II; 344 I; 324 V)
TOOTH BRUSHING	364 (313 V)
MENSTRUATION	311 (301 VI)

Factor IV is defined by the three items of the domain of Vocational Activity together with the Socialisation domain item of Selfishness. In view of the work related coherence of the three leading items of this factor and the socially appropriate selfless

character of the fourth item, Factor IV is described as Work Performance. (See Table 6.14).

Table 6.14

ABS I FACTOR IV WORK PERFORMANCE	
ITEMS	FACTOR LOADINGS
WORK HABITS	834 (316 II)
JOB PERFORMANCE	832 (365 II)
JOB COMPLEXITY	694 (403 I)
SELFISHNESS	367

Factor V is represented by items from the subdomains of Cleanliness and Appearance, Care of Clothing and Cleaning located in the domains of Independent Functioning and Domestic Activity. The association of these items suggests a level of activity and organisation in which the individual is not only aware of social expectations concerning self-care and personal maintenance skills but meets these standards of personal behaviour. For these reasons Factor V is described as Social Presentation. (See Table 6.15).

Table 6.15

ABS I FACTOR V SOCIAL PRESENTATION	
ITEMS	FACTOR LOADINGS
CLOTHING	663 (339 I)
PERSONAL HYGIENE	535
ROOM CLEANING	411 (408 I; 333 III)
CARE OF CLOTHING	393 (392 III; 377 I)

The sixth factor loads two items from the domain of Physical Development. Since these items are located in the subdomain of Motor

Development, Factor IV is labelled Gross Motor Skill. (See Table 6.16).

Table 6.16

ABS I FACTOR VI GROSS MOTOR SKILL	
ITEMS	FACTOR LOADINGS
WALKING AND RUNNING	706 (366 II)
BODY BALANCE	543 (365 I)

Factor analysis of Part II yielded four factors with eigen values greater than unity. Table 6.17 presents the rotated factor matrix for Part II of the ABS. The four factors vary markedly in their proportion of common variance, factor I and II being large while III and IV are quite small, though readily interpretable.

Table 6.17

ABS II ITEMS DEFINING ROTATED FACTOR DIMENSIONS				
ITEMS GROUPED BY DOMAIN *	FACTORS			
ITEMS	I	II	III	IV
THREATENS OR DOES PHYSICAL VIOLENCE	649	084	-147	-132
DAMAGES PERSONAL PROPERTY	352	588	-256	-130
DAMAGES OTHERS PROPERTY	407	382	-346	-277
DAMAGES PUBLIC PROPERTY	580	275	-232	-149
HAS VIOLENT TEMPER OR TEMPER TANTRUMS	498	298	016	-105
*				
TEASES OR GOSSIPS ABOUT OTHERS	723	-449	006	-026
BOSSES AND MANIPULATES OTHERS	721	-288	-011	-165
DISRUPTS OTHERS ACTIVITIES	701	181	-191	-204
IS INCONSIDERATE OF OTHERS	666	-055	-045	-138
SHOWS DISRESPECT FOR OTHERS PROPERTY	667	057	-155	-068
USES ANGRY LANGUAGE	692	-380	018	052

Table 6.17 (cont'd)

ABS II ITEMS DEFINING ROTATED FACTOR DIMENSIONS				
	FACTORS			
ITEMS	I	II	III	IV
IGNORES REGULATIONS OR REGULAR ROUTINES	708	040	022	-107
RESISTS FOLLOWING INSTRUCTIONS	694	060	137	-077
HAS IMPUDENT OR REBELLIOUS ATTITUDE	658	-306	177	-034
IS ABSENT FROM PROPER ASSIGNMENT OR PLACE	620	-146	128	032
RUNS AWAY OR ATTEMPTS TO RUN AWAY	311	168	-084	097
MISBEHAVES IN GROUP SETTINGS	726	228	106	061
TAKES OTHERS PROPERTY WITHOUT PERMISSION	511	-119	-205	058
LIES OR CHEATS	699	-422	062	058
IS INACTIVE	-039	438	464	012
IS WITHDRAWN	055	574	457	115
IS SHY	-088	434	419	030
HAS STEREOTYPED BEHAVIORS	137	682	279	059
HAS PECULIAR POSTURE OR ODD MANNERISMS	069	561	274	054
HAS INAPPROPRIATE INTERPERSONAL MANNERS	424	277	-234	248
HAS DISTURBING VOCAL OR SPEECH HABITS	448	296	111	084
HAS STRANGE AND UNACCEPTABLE HABITS	243	406	-077	074
HAS UNACCEPTABLE ORAL HABITS	217	479	004	-039
REMOVES OR TEARS OFF OWN CLOTHING	203	530	-251	-100
HAS OTHER ECCENTRIC HABITS	076	496	286	-025
DOES PHYSICAL VIOLENCE TO SELF	303	558	-003	082
HAS HYPERACTIVE TENDENCIES	354	406	-007	020

Table 6.17 (cont'd)

ABS II ITEMS DEFINING ROTATED FACTOR DIMENSIONS				
	FACTORS			
ITEMS	I	II	III	IV
ENGAGES IN INAPPROPRIATE MASTURBATION	132	352	022	299
EXPOSES BODY IMPROPERLY	341	533	-371	097
HAS HOMOSEXUAL TENDENCIES	173	-096	-248	635
SEXUAL BEHAVIOR THAT IS SOCIALLY UNACCEPTABLE	268	-025	-252	788
TENDS TO OVERESTIMATE OWN ABILITIES	461	-426	199	082
REACTS POORLY TO CRITICISM	548	-364	165	039
REACTS POORLY TO FRUSTRATION	728	-248	059	-008
DEMANDS EXCESSIVE ATTENTION OR PRAISE	646	-214	108	-029
SEEMS TO FEEL PERSECUTED	548	-358	378	030
HAS HYPOCHONDRIACAL TENDENCIES	309	-250	201	144
HAS OTHER SIGNS OF EMOTIONAL INSTABILITY	407	143	350	180
VARIANCE	10.47	5.62	2.09	1.58
PCT VARIANCE	53.0	28.4	10.6	8.0

Factor I of Part II is defined by items deriving from the domains of Violent and Destructive Behavior, Antisocial Behavior, Rebellious Behavior, Untrustworthy Behavior and Psychological Disturbances. In addition, in this study, items representing the domains of Unacceptable Vocal Habits and Inappropriate Interpersonal Manners, also load positively and significantly on this factor which may be said to represent a broad dimension of antisocial, extrapunitive, maladjusted and socially maladaptive behaviour. For these reasons Factor I is labelled Social Maladaptation. The emergence of this factor within this study points to likely limiting influences on the successful habilitation of the individual

and underlines the multi-faceted character of the concept of adaptive behaviour. (See Table 6.18).

Table 6.18

ABS II FACTOR I SOCIAL MALADAPTATION	
ITEMS	FACTOR LOADINGS
REACTS POORLY TO FRUSTRATION	728
MISBEHAVES IN GROUP SETTINGS	726
TEASES OR GOSSIPS ABOUT OTHERS	723 (-499 II)
BOSSES AND MANIPULATES OTHERS	721
IGNORES REGULATIONS AND REGULAR ROUTINES	708
DISRUPTS OTHERS ACTIVITIES	701
LIES OR CHEATS	699 (-422 II)
RESISTS FOLLOWING INSTRUCTIONS	694
USES ANGRY LANGUAGE	692 (-380 II)
SHOWS DISRESPECT FOR OTHERS PROPERTY	667
IS INCONSIDERATE OF OTHERS	666
HAS IMPUDENT OR REBELLIOUS ATTITUDE	658 (-306 II)
THREATENS OR DOES PHYSICAL VIOLENCE	649
DEMANDS EXCESSIVE ATTENTION OR PRAISE	646
IS ABSENT FROM OR LATE FOR TASKS OR PLACES	620
DAMAGES PUBLIC PROPERTY	580
SEEMS TO FEEL PERSECUTED	548 (370 III; -358 II)
REACTS POORLY TO CRITICISM	548
TAKES OTHERS PROPERTY WITHOUT PERMISSION	511
HAS VIOLENT TEMPER OR TEMPER TANTRUMS	498
TENDS TO OVERESTIMATE OWN ABILITY	461 (-426 II)
HAS DISTURBING VOCAL OR SPEECH HABITS	448
HAS INAPPROPRIATE INTERPERSONAL MANNERS	424
DAMAGES OTHERS PROPERTY	407 (382 II; -346 III)
HAS OTHER SIGNS OF EMOTIONAL INSTABILITY	407 (350 III)
RUNS AWAY OR HAS ATTEMPTED TO RUN AWAY	311
HAS HYPOCHONDRIACAL TENDENCIES	309

Factor II of Part Ii is bi-polar in character and is defined by items coming from the domains of Stereotyped Behavior and Odd Mannerisms, Withdrawal, Unacceptable or Eccentric Habits, Violent and Destructive Behavior, Hyperactive Tendencies and Sexually Aberrant Behavior. The negative side of this factor is loaded by items from the domain of Psychological Disturbances of an outer-directed, verbally mediated character. This factor is labelled Personal Maladaptation since it is strongly suggestive of a self-directed type of disorganisation of the adaptive process. (See Table 6.19).

Table 6.19

ABS II FACTOR II PERSONAL MALADAPTATION	
ITEMS	FACTOR LOADINGS
HAS STEREOTYPED BEHAVIOR	682
DAMAGES PERSONAL PROPERTY	588 (352 I)
IS WITHDRAWN	574 (457 III)
HAS PECULIAR POSTURE OR ODD MANNERISMS	561
EXPOSES BODY IMPROPERLY	533 (341 I)
REMOVES OR TEARS OFF OWN CLOTHING	530
HAS OTHER ECCENTRIC HABITS	496
HAS UNACCEPTABLE ORAL HABITS	479
IS SHY	434 (419 III)
HAS HYPERACTIVE TENDENCIES	406 (354 I)
HAS STRANGE AND UNACCEPTABLE HABITS	406
ENGAGES IN INAPPROPRIATE MASTURBATION	352
SEEMS TO FEEL PERSECUTED	-358 (548 I)
REACTS POORLY TO CRITICISM	-364 (548 I)
TENDS TO OVERESTIMATE OWN ABILITIES	-426 (461 I)

Factor III is bi-polar in character and is defined by positive loadings of the three items representing the domain of Withdrawal and items reflecting verbally expressed emotionality from the domain of Psychological Disturbances. The negative side of this factor is loaded by items from the domain of Unacceptable or Eccentric Habits

and Violent and Destructive Behavior. Factor III is labelled Withdrawal. (See Table 6.20).

Table 6.20

ABS II FACTOR III WITHDRAWAL	
ITEMS	FACTOR LOADINGS
IS INACTIVE	464 (438 II)
IS WITHDRAWN	457 (574 II)
IS SHY	419 (434 II)
SEEMS TO FEEL PERSECUTED	378 (548 I; -358 II)
HAS OTHER SIGNS OF EMOTIONAL INSTABILITY	350 (407 I)
DAMAGES OTHERS PROPERTY	-346 (407 I; 382 II)
EXPOSES BODY IMPROPERLY	-371 (533 II; 341 II)

Factor IV loads two items from the domain of Sexually Aberrant Behavior and is consequently given that title.(See Table 6.21).

Table 6.21

ABS II FACTOR IV SEXUALLY ABERRANT BEHAVIOR	
ITEMS	FACTOR LOADINGS
SEXUAL BEHAVIOR THAT IS SOCIALLY UNACCEPTABLE	788
HAS HOMOSEXUAL TENDENCIES	635

Having established the factor structure of the ABS at the level of items a separate analysis of 23 domains of the scale was carried out in order to provide a comparison with the analyses of Nihira (1969 a,b). The Guttman-Kaiser criterion indicated the presence of two common factors and the loadings of the domains on the resulting rotated factors appears in Table 6.22.

Table 6.22

ABS I AND II DOMAINS DEFINING ROTATED FACTOR DIMENSIONS

	FACTORS	
DOMAINS	I	II
INDEPENDENT FUNCTIONING	829	035
PHYSICAL DEVELOPMENT	463	227
ECONOMIC ACTIVITY	788	104
LANGUAGE DEVELOPMENT	860	138
NUMBERS AND TIME	739	188
DOMESTIC ACTIVITY	791	171
VOCATIONAL ACTIVITY	551	-027
SELF DIRECTION	750	-007
RESPONSIBILITY	790	-027
SOCIALISATION	854	021
VIOLENT AND DESTRUCTIVE BEHAVIOR	-264	570
ANTISOCIAL BEHAVIOR	206	733
REBELLIOUS BEHAVIOR	005	722
UNTRUSTWORTHY BEHAVIOR	316	581
WITHDRAWAL	-411	-038
STEREOTYPED BEHAVIOR AND ODD MANNERISMS	-569	278
INAPPROPRIATE INTERPERSONAL MANNERS	-221	375
UNACCEPTABLE VOCAL HABITS	-233	493
UNACCEPTABLE OR ECCENTRIC HABITS	-470	296
SELF-ABUSIVE BEHAVIOR	-434	481
HYPERACTIVE TENDENCIES	-242	379
SEXUALLY ABERRANT BEHAVIOR	-111	295
PSYCHOLOGICAL DISTURBANCES	-282	620
VARIANCE	7.02	3.34
PCT VARIANCE	67.8	32.2

Tables 6.23 and 6.24 list, in rank order, the domains defining these factors. Domains loading at .300 or above on the other factor have these loadings identified in parentheses.

Table 6.23

ABS I AND II	ROTATED FACTOR DIMENSIONS
FACTOR I	PERSONAL ADAPTATION
DOMAINS	FACTOR LOADINGS
LANGUAGE DEVELOPMENT	860
SOCIALISATION	854
INDEPENDENT FUNCTIONING	829
DOMESTIC ACTIVITY	791
RESPONSIBILITY	790
ECONOMIC ACTIVITY	788
SELF-DIRECTION	750
NUMBERS AND TIME	739
VOCATIONAL ACTIVITY	551
PHYSICAL DEVELOPMENT	463
UNTRUSTWORTHY BEHAVIOR	316 (588 II)
WITHDRAWAL	-411
SELF-ABUSIVE BEHAVIOR	-434 (481 II)
UNACCEPTABLE OR ECCENTRIC BEHAVIOR	-470
STEREOTYPED BEHAVIOR AND ODD MANNERISMS	-569

Factor I is bi-polar in character and accounts for two thirds of the common variance. All Part I domains are loaded positively on this factor. Untrustworthy Behavior, a Part II domain, is also representedly marginally on its positive side. Four domains from Part II, Withdrawal, Self-Abusive Behavior, Unacceptable or Eccentric Behavior and Stereotyped Behavior and Odd Mannerisms characterise its negative side. The pattern of domains represented on this factor is very similar to that established by Nihira (1969a) in his study of mentally retarded adults living in institutions in the United States and in the Late Adolescent group of his subsequent follow-up study (Nihira 1969b). In view of the complete representation of Part I domains on the positive side of this factor it is described as Personal Adaptation. The negative loadings of Part II domains indicate that these socially maladaptive behaviours, where present, will be associated with reduced levels of Personal Adaptation.

Those persons within the institutional setting who show patterns of self-directed, unacceptable, self-abusive and withdrawn behaviour will be low in their ability to demonstrate adaptive skills.

Table 6.24

ABS I AND II ROTATED FACTOR DIMENSIONS	
FACTOR II SOCIAL MALADAPTATION	
DOMAINS	FACTOR LOADINGS
ANTISOCIAL BEHAVIOR	733
REBELLIOUS BEHAVIOR	722
PSYCHOLOGICAL DISTURBANCES	620
UNTRUSTWORTHY BEHAVIOR	581 (316 I)
VIOLENT AND DESTRUCTIVE BEHAVIOR	570
UNACCEPTABLE VOCAL HABITS	493
SELF-ABUSIVE BEHAVIOR	481 (-434 I)
HYPERACTIVE BEHAVIOR	379
INAPPROPRIATE INTERPERSONAL MANNERS	375

Factor II loads domains characterised as reflecting antisocial behaviours, rebelliousness, destructiveness, untrustworthiness, inappropriate interpersonal manners and vocal habits, together with various affective reactions described as psychological disturbances. It represents a dimension of maladaptive behaviour of an antisocial, extrapunitive character. A Part II factor with essentially the same domain representation was similarly found by Nihira (1969 a,b), Lambert and Nicol (1976) and Cunningham and Presnall (1978).

CHAPTER 6: RESULTS

PART 3: SCALES DERIVED FROM FACTORS

Three main varieties of factor score are used by psychologists. The first comprises the sum of the weighted contribution of each item in the analysis for each factor. In a principal components analysis this yields a perfect association between factor scores and the factor while for a principal axis analysis the association is very high, although not perfect. The second variety of factor score consists of the weighted contribution of selected items, usually those with particularly high loadings on the factor in question. The third form of factor comprises the simple, unweighted contribution of selected items, again, those with high loadings on the factor. This third variety of factor scale is easier to calculate and simpler to use in everyday situations than the others but is less closely related to the original factors. Such scales tend to correlate with each other thus losing the orthogonality of the original factor solution. It is common practice to accept some degree of correlation as the price paid for simple scales; however, where the correlations are high it is wiser to abandon the use of simple scales.

In an attempt to establish a measure of the relationship between the factors obtained for the separate factor analyses of Part I and Part II at the item level, simple scales were derived for each of the ten factors using items which loaded more than half of their communality on a single factor. Table 6.25 sets out the inter-correlations between the ten derived scales. The first six scales, derived from the factors found for Part I, are highly correlated one with the other, demonstrating that they do not adequately correspond to the orthogonal factors it was hoped they would represent.

Table 6.25

INTERCORRELATION OF FACTOR SCALES ABS I/II										
DERIVED SCALES	1	2	3	4	5	6	7	8	9	10
1	1000	744	802	527	687	529	312	-488	-316	013
2	744	1000	711	616	585	585	151	-636	-399	104
3	801	711	1000	596	670	506	149	-542	-433	097
4	527	616	596	1000	470	322	-105	-497	-270	071
5	687	585	670	470	1000	395	132	-424	-368	-075
6	529	585	506	322	395	1000	262	-259	-368	182
7	312	156	149	-105	132	262	1000	205	-063	207
8	-488	-636	-542	-497	-424	-259	205	1000	435	-017
9	-316	-399	-433	-270	-368	-368	-063	435	1000	-080
10	013	104	097	071	-075	182	207	-011	-080	1000

For N = 401 Significant correlations are: .05 = 138; .01 = 181; .001 = 230

The derived scales for Part II show some degree of intercorrelation with each other, particularly Scales 8 and 9. However, since the Part I scales are so related as to be inadequate measures of the orthogonal factors found in the analysis of Part I items, it is not possible to ascertain the degree to which the separately calculated factors of Parts I and II are related. The relationships between the derived scales indicate the presence of a large general factor, probably one of general adaptiveness; the scales derived from Part I items measuring this in a positive direction and those from Part II doing so in a negative direction. These results are very similar to those obtained for the factor analysis of domain scores summarised in Table 6.22.

CHAPTER 6: RESULTS

PART 4: SELECTED PROFILE SUMMARIES. (ABS PART I)

In order to illustrate the substantial differences present within the measured adaptive and maladaptive behaviour of the hospital residents and to relate those differences to the general question of where and to what end intervention for habilitation purposes should be directed Profile Summary Sheets illustrating the average performance of wards on Part I and II of the scale were prepared. Tables 1 to 12 in Appendix K set out ward performance on the domains of Part I. Tables 1 to 12 in Appendix L display average levels of maladaptive behaviour on the domains of Part II. Average ward age was used to select the most appropriate age related table of norms for the purpose of displaying performance as approximate interpolated percentiles. Ward performance on the domains, sub-domains and items of the Adaptive Behavior Scale are contained in Appendix F to J. In order to illustrate the nature of this characterisation selected aspects from the domain of Independent Functioning and the principal assets and deficits are reported for four wards, representing the administrative areas sampled.

Ward 15

Table 1 in Appendix K sets out the profile of adaptive behaviour for Ward 15. Average Independent Functioning level falls at the 36th percentile. Reference to Appendix I shows that within the items of Independent Functioning approximately 80 percent of the children and early adolescents can feed themselves neatly with knife and fork or spoon and fork. Ninety-three percent can drink from a glass without spilling, though 29 percent show four or more problems in table etiquette. Fifty percent of the group never have toilet accidents by day or night though the remainder may have then occasionally at night. Sixty-six percent can manage all personal self-help skills when using the toilet. Eighty-seven percent can wash their hands and face by themselves though only 16 percent can be left to bathe unaided. In this regard 83 percent would show one or more problems in personal hygiene if left to themselves, while 33 percent cannot manage to brush their teeth by themselves. Fifty percent of the

children are regarded as having one or more postural problems, though all can walk unaided. Substantial problems in management arise from the group's relative inability to choose appropriate clean clothes for the day, and its inability or reluctance to look after personal clothing. Nonetheless sixty-two percent of the residents dress themselves with no more than prompting, while 91 percent can undress without assistance. Only eight percent of the group can use shoe laces correctly. In terms of personal independence all the ward residents are considered to be able to go around the hospital grounds without becoming lost, though seventy-five percent are regarded as being unable to use public transport by themselves. Some eight percent of the group have the ability to do so. A similar difference in performance can be observed in relation to telephone use.

Though limited in some areas of Independent Functioning the children and adolescents of Ward 15 have substantial assets in those skills represented by the domains of Economic Activity, Domestic Activity and Socialisation where their performance falls well above average for this group. The scatter of abilities represented by the Profile Summary illustrates not only past learning but provides good reason for optimism of further development given appropriate person-centred intervention in deficit areas.

Ward 7

Ward 7 is designated a male rehabilitation ward. Examination of Table 4 in Appendix K shows that the majority of Part I domain scores fall either close to, or above average for men aged between 30 to 49 years. Seventy-eight percent of ward residents feed themselves using a knife and fork. Fifty-four percent are considered to be capable of ordering a meal in a restaurant or cafe. All are able to drink from a cup or glass unassisted. Table manners represent a substantial problem since 45 percent have two or more deficits. Eighty-three percent never have toilet accidents, though the remainder may have them occasionally by night. Ninety-two percent of the residents cope with self-care skills toileting and eighty-nine percent wash their hands and face appropriately. Eighty-one percent of the group bathe unaided. Personal hygiene tends to be neglected by the men resident in Ward 7 where eighty-six percent present with

one or more problems. Equally sixty-seven percent are held to require either supervision or assistance in brushing their teeth.

A minority, thirteen percent, are seen as having two or more problems in posture or gait. The majority, ninety-four percent have one or more areas of difficulty in choosing or wearing clean or appropriate clothing, though fifty-one percent are considered to be capable of looking after their own clothing in an appropriate manner. Ninety-two percent of residents can dress themselves with no more than prompting while ninety-four percent can undress by themselves. Eighty-nine percent can manage to put their shoes on correctly though a small minority, some fourteen percent, have substantial difficulty in this activity. Seventy-five percent are seen as being able to travel away from hospital without becoming lost. Fifty-one percent can use various forms of public transport by themselves. Forty-six percent are able to use both public and private telephones independently, though nineteen percent have no ability in that area. Ward atmosphere can be characterised by the group's average score for the domain of Socialisation, which falls at the 80th percentile. In balance residents of Ward 7 are a socially responsive, outward going group of men who represent the upper levels of adaptive behaviour within the adult sector of the hospital population. Remedial activity with this group involves not only the development of appropriate levels of independent functioning but also the preparation of the individual for work within a community setting. Residents of Ward 7 tend to be admitted with problems in maladaptive behaviour in addition to limitations in personal functioning skills.

Ward 12

The group Profile Summary for Ward 12 shown in Table 8 in Appendix K is notable for the lack of variation across the ten domains of Part I. Average level of Independent Functioning in this group of men represents the greatest area of deficit, while that of Economic Activity which includes regular daily purchasing in the hospital shop can be considered as an area of assets.

As reference to the items contained in Appendix I shows within the domain of Independent Functioning some thirty percent of residents can feed themselves with a knife and fork. While a minority of fifteen percent are regarded as being able to order a snack in a cafe,

thirty-nine percent have no ability in this activity. Equally while ninety-five percent are able to drink from a glass without spilling, eighty-nine percent have one or more problems in table manners. Within this group eighty percent never have toilet accidents, though the remainder have them occasionally. Eighty-five percent can cope with all self-care skills when toileting and eighty-nine percent can wash their hands and face without physical assistance.

Management difficulties arise in relation to personal cleanliness. While fifteen percent can bathe themselves unaided, fifty-five percent require direct physical assistance when taking a bath. In a related area while twenty-one percent present no problem in personal hygiene, fifty-nine percent have two or more problems in this aspect of self-care. While ten percent can brush their own teeth, fifty-one percent are held to be unable to apply toothpaste and nineteen percent make no attempt to brush their teeth. Seventy-eight percent of Ward 12 residents have no problems in posture or gait. Some forty-six percent of the group are seen as having no skills at all in choosing clean and appropriate clothing though seventeen percent are regarded as looking after their own clothes appropriately. Seventy-eight percent can dress without assistance, ninety-one percent can undress without help. Sixty-six percent are able to put their shoes on and take them off, though Ward policy is to avoid the purchase of lace-up shoes. A minority of residents, ten percent, are held to be capable of leaving the hospital grounds without becoming lost, the majority seventy-eight percent are seen as capable only of negotiating the hospital grounds by themselves. From the point of view of mobility ninety-one percent of all residents have no ability in respect of the use of public transport, while ninety-five percent have no skills in the use of the telephone. In summary Ward 12 residents may be said to represent that part of the hospital long-stay population which though requiring a certain consistent measure of supervision in relation to self-care matters, presents no major maladaptive behaviour problem. As a group Ward 12 residents present no compelling reason requiring hospital services in preference to any others.

Ward 4

Table 10 in Appendix K sets out the Part I Profile Summary for Ward 4, a high-dependency, low-grade women's ward. In domains

where scores are greater then zero no average performance rises above the 30th percentile. Independent Functioning, Self-Direction and Socialisation levels all fall below the 10th percentile. Within this limited range of performance forty-three percent of residents can feed themselves neatly using a spoon and fork, while an additional thirty percent does so with considerable spilling. Seventy-four percent are able to drink neatly from a cup or glass; a further twenty-seven percent does so with considerable spilling. Twenty-six percent present no problem in table manners; but thirty percent have five or more problems.

Incontinence represents a major management problem. Eight percent never have toilet accidents, thirteen percent have them occasionally at night, fifty-six percent during the day while twenty-one percent have accidents frequently during the day. This last figure will include some whose "accidents" are directly related to routine contingencies. Twenty-one percent of the group are able to cope with all self-care skills when using the toilet. Eighty percent have minimal self-care abilities in this activity. Thirty-four percent can wash their hands and face with prompting, though thirty-nine percent are unable to do so. A minority, thirteen percent, can wash and dry themselves reasonably well when bathing, though sixty percent have to be bathed completely. Thirty percent present no problems in personal hygiene, while forty-seven percent have major deficits in that area of self-help skill. While forty-three percent require some help with teeth-brushing, the remainder have to have their teeth brushed.

Twenty-one percent make some attempt to help during menstruation though seventy-nine percent do not. Forty-eight percent of residents have one or more problems in posture or gait. Eighty-two percent do not take any care of their clothing, in the sense of hanging it up or folding it away. Despite this lack of organised activity, thirty-four percent can dress themselves with prompting while sixty-five percent can undress without assistance. Four percent are able to put on and take off their shoes by themselves. Seventy-nine percent of the group are not judged to be capable of going around the hospital grounds by themselves without becoming lost. Language deficits are much in evidence. Fifty-seven percent of the women of Ward 4 only have elements of preverbal expression. In all the pattern of performance reflected in this profile summary

illustrates very clearly that administrative concepts of high, medium or low dependency characterise a very wide range of levels of performance within any living area, with the clear implication that unique patterns of adaptive assets and deficits require person specific habilitative intervention.

CHAPTER 6: RESULTS

PART 5: PROFILE SUMMARIES (ABS PART II)

Tables 1 - 12 in Appendix L illustrate the patterns of maladaptive behaviour represented within the twelve wards sampled in this study. Appendix G gives detailed information of the distribution of maladaptive behaviour across Part II domains, while Appendix J presents the differences within wards for each of the 43 items examined. Profile Summaries are related, for comparative purposes, to the distribution of zero scores within the age-related norms from the United States sample. The percentage distribution of zero scores within wards or administrative areas for the sample in this study is set out in Tables 6.30 and 6.31.

Table 6.26

ABS PART II DOMAIN PERCENTAGE SCORING ZERO BY AGE RANGE

	ABS	13 - 15		ABS	19 - 29	
DOMAIN	1974	15	16	1974	8A	4
VIOLENT AND DESTRUCTIVE	40	29	14	43	10	13
ANTISOCIAL BEHAVIOR	33	4	45	35	10	26
REBELLIOUS BEHAVIOR	37	8	23	45	13	21
UNTRUSTWORTHY BEHAVIOR	50	45	82	55	53	91
WITHDRAWAL	50	71	9	50	50	9
STEREOTYPED/ODD MANNERISMS	63	50	4	60	80	17
INAPPROPRIATE INTERPERSONAL	65	46	54	70	80	65
UNACCEPTABLE VOCAL	63	42	27	65	70	26
UNACCEPTABLE ECCENTRIC	60	37	4	60	53	8
SELF-ABUSIVE BEHAVIOR	75	62	32	70	77	22
HYPERACTIVE BEHAVIOR	65	54	27	70	60	44
SEXUALLY ABERRANT	67	54	77	65	70	70
PSYCHOLOGICAL DISTURBANCES	-	25	27	25	20	13

Table 6.27

ABS PART II DOMAIN PERCENTAGE SCORING ZERO BY AGE RANGE; 30 - 49

DOMAIN	1974	REHAB	MED	4A	11
VIOLENT AND DESTRUCTIVE	44	42	43	19	19
ANTISOCIAL BEHAVIOR	41	19	34	24	4
REBELLIOUS BEHAVIOR	53	19	43	14	8
UNTRUSTWORTHY BEHAVIOR	55	46	66	57	58
WITHDRAWAL	50	33	35	24	19
STEREOTYPED/ODD MANNERISMS	70	82	82	48	23
INAPPROPRIATE/INTERPERSONAL	73	85	63	57	43
UNACCEPTABLE VOCAL	70	58	69	35	15
UNACCEPTABLE/ECCENTRIC	60	56	40	19	23
SELF-ABUSIVE BEHAVIOR	80	83	88	43	23
HYPERACTIVE BEHAVIOR	70	61	73	43	27
SEXUALLY ABERRANT	86	76	58	57	42
PSYCHOLOGICAL DISTURBANCES	30	15	35	14	23

Where average age across wards falls within the same age range of norms, percentage of residents scoring zero for each domain is given for wards grouped as administrative areas. The figure representing the percentage scoring zero in each domain from the ABS (1974) normative table is approximate only, since derived from tables of approximate percentile ranks. Table 6.30 and 6.31 are intended to give an indication of the broad differences across the wards of this study and to illustrate, by reference to the percentage of each ward not demonstrating the behaviour in question, similarities and differences between patterns of maladaptive behaviour represented in this Scottish sample and the extensive American sample. In this comparison a smaller zero percentage than that given for any particular domain in the 1974 norms reflects a wider representation of the problematic behaviour within the ward or administrative area. No conclusion can be drawn however about the relationship between the upper bound of the distribution of scores for the domains in this study and the range represented in the American norms other than that, to the extent that the percentage

scoring zero increases, the distribution will become more skewed.

Wards 15 and 16 differ most notably in those domains characterised as Withdrawal, Stereotyped Behavior and Unacceptable or Eccentric Habits (See Appendix L). Average Ward 16 performance falls above the 90th percentile while less than 10 percent of the residents score zero in these domains. Ward 15 is most effectively characterised by its level of Anti-Social Behavior which falls at the 82nd percentile as well as by the extent of Rebellious Behavior in both of which domains less than 10 percent of residents have zero scores. Ward 8A is represented by the pervasive character of behaviours within the domains of Violent and Destructive, Anti-Social and Rebellious Behavior in which 13 percent or less of the residents have zero scores and where average performance falls at or above the 80th percentile. These differences no doubt reflect the selection process leading to admission. Ward 16 has a resident group of ambulant but very severely handicapped young people. Ward 15 provides places for children who are demonstrating patterns of unacceptable behaviour in the wider educational provision, while Ward 8A has a catchment area drawn in part from maladjusted adolescents referred by the Courts.

Within the rehabilitation area Ward 7 and Ward 5 present similar patterns of maladaptive behaviour in that both the men of Ward 7 and the women of Ward 5 show Anti-Social, Rebellious and Untrustworthy Behavior falling at or above the 85th percentile as well as substantial and identical levels of Psychological Disturbance. Ward 5 is also characterised by a level of Violent and Destructive Behavior which exceeds that found in the male ward. By contrast the residents of Gogarburn House score less highly on all Part II domains though Rebellious, Anti-Social and Untrustworthy Behavior are represented together with Psychological Disturbances in this unit. Examination of Table 6.31 shows that fewer of the residents in these wards score zero on these domains that in the normative sample for Part II of the ABS.

A comparison of the male medium grade Wards 6 and 12 shows that both Profile Summaries indicate elevated levels of Rebellious Behavior, which in the case of Ward 6 is surpassed by that of Sexually Aberrant Behavior. Ward 1 presents relatively trivial or zero domain scores on average. Examination of Table 6.31 shows that the range of percentage scoring zero across the thirteen domains though often less,

also on occasion exceeds the values provided by the normative sample.

Wards 4, 4A and 11 show substantial levels of maladaptive behaviour. The women of Wards 4 and 4A differ principally in the lower levels of Withdrawal and Stereotyped Behavior shown by the less handicapped residents of Ward 4A, while those of Ward 4 show less Anti-Social and Untrustworthy activity. This difference may be attributable to more restricted language development and reduced level of personal organisation generally. In contrast Ward 11 shows consistently high levels of maladaptive behaviour across all Part II domains with the exception of Psychological Disturbances. Examination of Table 6.31 shows that far fewer men score zero on Part II domains in Ward 11 than in the ABS normative sample in 9 our of the 13 domains studied, suggesting that difficulties with Part II performances constitute important reasons for admission to Ward 11.

CHAPTER 7

DISCUSSION AND CONCLUSION

CHAPTER 7

DISCUSSION AND CONCLUSION

Begab (1977) has observed that many dimensions of the problem of mental retardation are without definitive answers and that one major area of controversy and uncertainty continues to be that of definition. Over the past two decades that AAMD has advanced a broad conceptualisation of mental retardation, emphasising that it involves evidence of subaverage intellectual functioning "associated" with deficits in adaptive behavior (Heber 1961) or, as defined by Grossman (1973, 1977), is considered as "signifcantly subaverage intellectual functioning existing concurrently with deficits in adaptive behavior". Despite this emphasis upon both intellectual and behavioural criteria they are not jointly used in the majority of clinical settings or research studies (Smith and Polloway 1979). Prevalence studies with few exceptions continue to use a single IQ criterion measure, with a notable lack of standardisation of the ceiling value to be used in the retarded range, while mislabelling (Cleland 1979) and misclassification continue within the research literature (Taylor 1980).

Difficulties arise at the conceptual level for those who would wish to use the criteria advanced by the AAMD since some authorities (Clausen 1967, 1971) have held that reduced measured intelligence is causally related to impairment in adaptive behaviour, while others (Leland 1973, 1974, 1977, Mercer 1977) have emphasised the cultural relativity of the condition and have given primacy to the dynamic relationship between type and level of environmental demand and the degree of adaptation achieved. The functional relation between setting and performance leads to the individual being able to satisfy expectations in one setting but failing in another. Failure by the mentally handicapped in educational settings does not necessarily entail failure in future occupation (Brennan 1974). The polarisation of thought over what are acceptable criteria of mental retardation reintroduces an ancient issue in new guise. Begab (1977) noted that the one perspective regards intelligence, and presumable behaviour as independent of clinical settings, while

the other highlights the primacy of social processes. Baumeister (1975) observed that

> "the nature-nurture controversy is flourishing"

in the United States in reference to the heightened public and professional responsiveness to the political, legal and ethical implications of conceptions of deviancy, labelling, and the inherent integrity of cultural differences.

Within the United Kingdom the early studies of the social and intellectual performance of the institutionalised subnormal reported by Clarke and Clarke (1958) contributed to a climate of opinion which questioned the official practices of the day. The representations made by the British Psychological Society (1963) on the vexed question of adequate and appropriate intellectual criteria represented a substantial clarification of an important issue for those working in the field. Following the introduction of new legal conceptions of mental subnormality and deficiency, which in Scotland contained no attempt to define how either an intellectual or behavioural criterion related to mental deficiency (Mental Health (Scotland) Act 1960), official concern moved to the development of more adequate services for the non-institutionalised mentally handicapped person focussing initially upon the education of children (Education (Scotland) Act 1962).

Subsequent interest in the mental subnormality service has tended to be framed from either an administrative preoccupation with structure of professional service (Batchelor 1968, Briggs 1972, DHSS 1971) or with inadequacies and shortcomings of service provisions (DHSS 1969, Morris 1969, King et al. 1971). In the last decade attention has moved toward a consideration of the mentally handicapped person as the primary focus for service delivery (Jackson and Struthers 1974, Whelan and Speake 1977, Mittler 1977 a,b) though the appropriate balance between administrative considerations and service type has not been without contention (Jay 1979, Peters 1979) and critical observations of service delivery continue (Oswin 1978). Within these observations, criticisms and proposals the fundamental issue of criteria for the identification and categorisation of mental defectiveness or subnormality does not appear to have been addressed directly though presented

by implication in the form of alternative service models which focus upon developmental programming (Kushlick 1976).

For those psychologists working in the hospital setting in the United Kingdom recommended service activities, again involving alternative criteria of mental handicap by implication have been consistently and comprehensively offered by Gunzburg (1960, 1968, 1973). This author has highlighted the importance of social education and training for the mentally handicapped person and has emphasised the view that social inefficiency, though frequently associated with intellectual deficiencies and reduced measured intelligence is neither inevitable nor irreversible. On Gunzburg's view the appropriate function of the residential institution is to provide a temporary community in which new skills can be learned. Absence of these skills is understood to be highly detrimental to the individual since failure to recognise or observe the rules which govern community conduct may well lead the individual to live as a "practical outcast" with consequent likelihood of personality maladjustment (Gunzburg 1960). The perspective offered by Gunzburg (1968, 1973) has much in common with that formalised by Heber (1961, 1962), Grossman (1973, 1977) and translated to the clinical setting by Leland (1964, 1967, 1973, 1974, 1977). The emphasis given by these authors has been to broaden the operational framework for the identification of appropriate client groups and above all to provide a view of mental retardation which leads to realistic innovative activity with the members of those groups in areas largely unrelated to measured intelligence. The Adaptive Behavior Scale (1974 Revision) embodies these concerns since providing a framework for the development of individual and group programmes (Nihira, Foster, Shellhaas and Leland 1974).

In choosing to use this scale in a clinical and administrative way it is important to establish the extent to which previous findings abouts its factorial composition are reproduced with the present Scottish mental deficiency service. The original factor study by Nihira (1969a) strongly suggested that in an adult hospital based population the concept of adaptive behaviour was represented by two clearly delineated dimensions labelled Personal Independence and Social Maladaptation. These were found to be independent in the

heterogeneous group of adults studied. Behaviours defining a third minor factor, described as Intra-Maladaptation all loaded negatively on the first factor, Personal Independence implying that they tended to be associated with lower levels of personal independence.

In a follow-up study with children and adolescents essentially the same pattern of independent dimensions emerged (Nihira 1969b). In this study moderate secondary loadings of Antisocial and Untrustworthy Behavior were found on the factor of Personal Independence in the Pre-adolescent and Early-adolescent groups. These positive loadings were taken to indicate that behaviours in these domains were more frequently found among those more able to maintain personal independence than those less able to do so. The factor of Personal Independence again had negative loadings from those behaviours defining the second Part II factor, now characterised as Personal Maladaptation. The status of this factor was less certain than that of Social Maladaptation, since it loaded the domains of Peculiar and Eccentric Habits, Sexually Aberrant Behavior and Rebellious Behavior in the Pre-adolescent group though these loadings failed to appear in the Late-adolescent group. In addition the factor Personal Maladaptation was not found as a separate dimension in the Early-adolescent group as the domains defining it loaded on the factor Social Maladaptation.

In discussing the results of this study Nihira observed, in respect of the factors of Social Maladaptation and Personal Maladaptation that they could be regarded as

> "manifestations of two different response patterns that appear commonly among retardates." (Nihira 1969b).

In that study as the two factors represented by Part II domains were themselves clearly differentiated, the data suggested that a mentally retarded person with behaviour disorders characteristically showed one or another of these categories of behaviour, and that they were not commonly observed in mixed form except in some early adolescents.

The factor analysis of the domains of Part I and II in this present study in essence replicates the outcome of Nihira's examination of the factorial dimensions of adaptive behaviour in adults

(Nihira 1969a). The findings underline the multi-dimensional character of the concept of adaptive behaviour and endorse Nihira's conclusion that Personal Independence and Social Maladaptation constitute behavioural dimensions of substantial theoretical and clinical importance with the mentally handicapped. While no separate factor of Intra, or Personal Maladaptation was found in this analysis it is of note that the domains which defined it in Nihira's study, again loaded negatively on the first factor, here labelled Personal Adaptation. The relative instability of this dimension of maladaptation as shown by Nihira (1969 a,b) and its non-appearance here at the level of analysis of domain scores indicates that the behaviours defining Personal Maladaptation are sufficiently restricted to small specific sub-groups in this present hospital population for the variance contributed by individual item scores to be "washed out" when analysis takes place at domain level.

The factor analysis in this present study yielded two major factors defined by similar patterns of domain loadings to those found by Nihira (1969a). Here Personal Adaptation accounted for sixty-seven percent of the communality compared with fifty-four percent for Personal Independence in the 1969 study, while Personal Maladaptation accounted for thirty-two percent as against twenty-two percent for Nihira's second factor, Social Maladaptation. At this level of analysis therefore the results indicate that the Adaptive Behavior Scale provides a stable and parsimonious description of important individual differences among the mentally handicapped as shown by its use within the setting of a Scottish residential institution.

While Tomiyasu (1977) has analysed Part I of the scale at the item level there does not appear to have been any other study reported in English of the factorial structure of the items of both Part I and Part II of the Adaptive Behavior Scale. Nihira (1969 a,b) was concerned with establishing the nature and number of the general dimensions of adaptive behaviour at the domain level and restricted study to the specific components of the dimension of Personal Independence when analysing the factorial dimensions of the subdomains of Part I (Nihira 1976).

In this present study analysis of Part I items yielded six factors. Factor I, described as Community Self-Sufficiency represented skills over and above those necessary to meet immediate personal demands in daily living. The second, entitled Personal

Self-Sufficiency, loaded items characterised as skills fundamental to an individual basic self-sufficiency in routine matters of daily living. A third factor labelled Social Responsiveness loaded items describing the individual's social interactions, consideration for and cooperation with others as well as the successful discharge of responsibilty.

These three factors are very similar in composition to those found by Nihira (1976) in his analysis of Part I subdomains. In that study three factors were identified which emerged consistently across the age range 4 to 69 years. These, described as Personal Self-Sufficiency, Community Self-Sufficiency and Personal Social Responsibility were defined by essentially the same subdomains which loaded items on the first three factors from Part I in this present study. The similarity of outcome is of note given the likely difference in parsimony of description between factoring subdomains and factoring items. The remaining factors from this present analysis of Part I, Work Performance, Social Presentation and Gross Motor Skill, provide credible descriptions of minor but significant sources of variance among the residents. While the possibility of a factorally based reorganisation of items within the scale would seem to be practical the analysis of items of Part I in this study while compatible with previous analyses of the subdomains on Part I (Nihira 1976) suggests that the study reported by Tomiyasu (1977) offers no compelling reason for adopting the organisation of items into the seven new categories he proposed.

The analysis of Part II items demonstrates the stability of the dimensions of maladaptive behaviour found in studies of domain structure by Nihira (1969 a,b), Lambert and Nicol (1976) and Cunningham and Presnall (1978). While stability might have been anticipated given the high face-validity of the items, their origin in maladaptive behaviour reports from institutional settings and the item analyses carried out in the course of scale development, alternative emphasis in source of variance reflecting local admission and discharge practices could not have been discounted. Resident numbers at Gogarburn have been reduced by some thirty-three percent since 1969 and the present population is more likely to demonstrate one or another type of maladaptive behaviour than those persons included in the Adaptive Behavior standardisation, as Table 6.30 and 6.31 indicate. While this finding is of considerable interest in respect

of future relocation of Gogarburn residents it is of note that Part II is sufficiently stable at the item level to allow analysis compatible with previous domain studies in North America, to take place in the United Kingdom.

The relationship between the factor scales and the additional sample descriptors, including measured intelligence, supports the proposition made by Heber (1959, 1961) developed by Leland et al. (1967) and operationalised by Nihira (1969, 1973) that adaptive behaviour represents a measurement dimension in it's own right. Within this group of mentally handicapped children and adults, as in previous studies, a distinction can clearly be made between socially appropriate adaptive performance on the one hand, and maladaptive activity on the other. While this is widely recognised in clinical settings the particular relationship between the one and the other can readily be established by the use of the scale. In addition these results strongly support the conclusion that no less than three broad dimensions of performance should be evaluated as a matter of routine when decisions are to be made on behalf of the mentally handicapped person; these are the dimensions of adaptive behaviour, maladaptive behaviour and measured intelligence. While the relationship between the behavioural dimensions and measured intelligence can be expected to vary in importance depending on client group the conclusion to be drawn from the evidence reported here is that the AAMD (1973) definition is conceptually well founded and the apposite to the identification of the needs of the mentally handicapped.

The findings from the reliability study indicate a more modest degree of inter-rater agreement for Part I of the scale than reported for the 1974 Revision, while there is a substantial correspondence with the levels of reliability reported for the domains of Part II. Reasons for the lower levels of agreement are not readily identifiable given the similarity of findings for Part II. Inspection of the pattern of item, subdomain and domain reliabilities across the administrative areas sampled suggests that the Childrens and Adolescent Unit and the wards of the high-dependency area obtain a higher level of agreement on average than do the wards of the remaining areas. While the final results were not analysed for area trends across items and scale groupings, such an impression, if supported might well relate as far as Part I of the scale is concerned to a ward size, rater responsibility interaction. In this

the assessment procedure introduced differences in rated behaviour attributable to differences in actual degree of rater observation or knowledge of the individual being rated, stemming directly from rater status. On this view Charge Nurse raters would be expected to have a different view of the behaviour of their residents in large wards, while nursing assistants, by the very nature of their work would be expected to have immediate first-hand experience of those persons rated.

Millham, Chilcutt and Atkinson (1978) describe a study, not directly concerned with reliability issues, in which Adaptive Behavior Scale ratings were compared with results of direct observation. Adaptive behaviour measures, which are intended to assess skills critical to the individual's successful adaptation in everyday life differ from traditional psychometric evaluations since they rely on retrospective judgement procedures. Millham et al. (1978) suggest that such procedures emphasise behavioural outcomes rather than circumstances as they are and therefore often confound ability or "can do" with actual performance. They maintain that retrospective observations of the retarded persons behaviour, obtained from parents or other caretakers, although direct measures of the observers conceptions may reveal more about the observer than the observed. When this information pertains to relationships between the retarded person and the observer no great difficulty ensues. When however the adaptive behaviour assessed reflects specific behavioural competencies and performance, judgements obtained from adaptive behaviour measures are subject to distortions reflecting personal bias and variations in experiential base for the judgements. These authors compared retrospective naturalistic observations with direct observation assessment of 10 subdomains of Part I of the Adaptive Behavior Scale. Raters were asked to evaluate the number of times they had had an opportunity to observe each item rated. Differences in level of rating and client performance in direct controlled observation were classified in respect of direction of disagreement.

The number and degree of discrepancies between the two procedures remained stable across levels of retardation assessed, variations in the experiential base for the retrospective judgements and across raters making the judgements. These authors note that there was a significant relationship between direction of disagreement and prior observational base. There seemed to be a general tendency for Adaptive Behavior Scale

judgements of ability level to be higher for those kinds of behaviour with which the rater has the greatest familiarity. In brief Millham et al. (1979) note that the judgements obtained from adaptive behaviour measures may have limited generalisability to other everyday settings.

Leland (1972) argued that lack of generalisability arose from the definition of adaptive behaviour itself. Impaired performance arises in relation to specific demands in particular settings. With adaptive behaviour defined in terms of coping with the demands of the individual's setting Leland argued that all that can be observed is how well the individual copes. Whether a particular strategy or behaviour is judged as appropriate or retarded will be contextually determined. Importance attaches therefore not so much to the question of what the child or adult actually "does" but rather to what significant authority figures think the individual is doing. In this process reliability may be understood as a well established and recognised consensus opinion.

The studies reported by Hickman (1977) and Isett and Spreat (1979) provided evidence that the Adaptive Behavior Scale has generally high levels of test-retest reliability, for both Part I and Part II. Since Leland's (1972) formulation implies that setting and behaviour are functionally related, Hickman's finding of very limited agreement between teachers and parents suggests that Adaptive Behavior Scale inter-rater reliability can be viewed as falling on a gradient of agreement. Test-retest reliability, the individuals general impression of the person rated compared with itself represents the highest accord possible. Within settings agreement between raters falls to a level reflecting ward size and the extent to which raters share in the consensus view, while the lowest agreement for any procedure adopted arises when ratings are obtained across some well-defined cultural boundary. It would follow from these observations concerning the reduced reliability estimates that restriction of raters to one grade of ward staff, typically nursing assistants would of itself lead to an improvement of inter-rater reliability. In this regard the reliabilities reported by Isett and Spreat (1979) were gathered from direct care workers and were in the main regarded as acceptable for Part I of the scale.

These authors note that the findings relative to Part II are more problematic. The test-retest data indicated that the same

informant will be reasonably consistent in making judgements over a relatively short time span. As far as inter-rater agreement is concerned the data showed relatively poor agreement despite previous training. Isett and Spreat suggested that the problems of inter-rater reliability could well arise from factors such as differential interpretation of items of scoring criteria for Part II. They also acknowledge the possibility that inconsistencies between raters may also arise through from the fact that they have been exposed to different examples of the same clients behaviour even within the same general setting. Here the explanatory hypothesis would be that every staff member provides a somewhat different constellation of discriminative stimuli thereby evoking different kinds of behaviour from the same client. Under these circumstances the differences between rater judgements would not be treated as error but be taken as evidence of true behavioural variation. Isett and Spreat (1979) quote several unpublished studies which have provided evidence that individuals obtain different Adaptive Behavior Scale ratings both for Part I and II in different settings. These authors conclude by suggesting that an appropriate interpretation of Part II information may perhaps require that inferences be limited not only to the setting within which the client was observed but also to the person performing the rating. It would follow from this suggestion that there should be systematic differences in inter-rater agreement attributable to differential characteristics such as age, sex and as was suggested for Part I, rater status.

As far as the improvement of inter-rater agreement within settings is concerned the present study provided no additional pre-rating training either in terms of rating procedures, or in scale items to be rated. The extended introduction to the scale was intended to provide a reasonable graduated approach to what for most raters was an entirely novel task. As the 1974 Revision of the scale and studies by Upadhyaya (1977) and Isett and Spreat (1979) report higher and more satisfactory levels of reliability for Part I than those established in this study, it seems on balance that the obtained values can be considered as conservative estimates in this instance. Probably the most effective way of improving the reliability of adaptive behaviour data within any residential setting is to introduce the scale into its routine evaluation and review procedures. Once established in an area attention can then be directed to providing staff with specific items

for checking and discussion as a matter of review and as an integral part of programme development. As far as Part II of the scale is concerned a number of improvements have been suggested in recent years, (McDevitt, McDevitt and Rosen 1977, Taylor, Warren and Slocumb 1979, Clements, Bost, Dubois and Turpin 1980, Clements Dubois, Bost and Bryan 1981).

McDevitt et al. (1977) drew attention to the skewed distribution of domain scores for Part II. Within the 1974 Revision standardisation sample some 40-50 percent obtain zero scores. Two difficulties follow from this, namely profile elevation and loss of sensitivity. Profile elevation is of itself misleading since all individuals may show some elevation in one domain or another. Equally profile elevation is not consistent across domains making judgements of relative degree of maladaptation hazardous. In addition those whose scores are composed of several kinds of maladaptive behaviour within a domain will tend to cluster closely together at the upper extreme of the decile levels. The outcome from an interpretative point of view is that major difficulties arise through spurious profile elevation and the insensitivity inherent in decile ranks based on skewed distributions. These authors note that Nihira (1975) cautioned that frequency should not be overemphasised in interpreting outcome, since importance rather than frequency is the better basis for evaluation. McDevitt et al. (1977) suggest that the effectiveness of Part II could be increased by eliminating the frequency aspect of ratings and presenting items either as a single check list of by classifying items into larger scales based on severity of maladaptive behaviour. These authors proposed that separate norms could be provided for persons at differing levels of behavioural competence, identified with reference to adaptive behaviour or measured intelligence.

Taylor et al. (1979) examined these suggestions with reference to the items of the domain of Violent and Destructive Behaviour. Forty-five graduate teachers of special education rated all 26 domain items on a four point scale of severity and categorised each item in terms of it's effects within the classroom or clinical setting. Items rated as directly injurious to others were seen as most severe, followed by those indirectly injurious to others, injurious to self, destructive of property and annoying to others. Assessors agreed on item categorisation at least eighty percent of the time for 20 or the 26 items. Severity ratings ranged from a mean of 1.63 (uses threatening gestures) to 3.93 (chokes others). Taylor et al. suggested that

these findings indicate the possible development of an item severity weighting procedure, which would take into account the weight for a category as well as the weight for an item.

These suggestions were followed up by Clements et al. (1980) who examined the feasibility of ordering Part II items on a continuum of severity. Thirty-three graduate or post-graduate psychologists rated items on an 11 point scale of ascending severity which included three statements, not maladaptive, moderately maladaptive and seriously maladaptive as anchor points. In order to determine whether differences in severity existed among the 13 domains of Part II examined, analysis of variance was carried out on level of frequency by domain using median ratings as the dependent variable. Results indicated that statements prefaced by "frequently" were judged to be significantly more severe than those prefaced by "occasionally". No frequency of occurrence by domain interaction was found. The correlation of .85 ($p < 001$) between "occasionally" and "frequently" forms of statements indicated that irrespective of absolute difference due to prefacing statements by frequency of occurrence types of maladaptive behaviour had been systematically placed along a relative continuum of severity. A split half reliability check yielded a coefficient of .87 ($p < 001$). Clements et al. suggest that the provision of severity scores eliminates a major Part II inadequacy. The revised scoring system proposed could be used to determine priorities for programme intervention that mere frequency data do not allow, while such a revised system might better reflect the outcome of therapeutic intervention. These authors note that some of the error variance found in reliability studies (Nihira et al. 1974) may result from considering all types of maladaptive behaviour as qualitatively equivalent.

In a follow-up study Clements et al. (1981) reported a comparison of severity and frequency of occurrence methods of scoring Part II of the Adaptive Behavior Scale. This comparison involved an examination of the relative predictive efficiency of these two types of scores in terms of their relationship to independently obtained clinical impressions of overall symptomatology for seven groups of mentally retarded persons. The mean correlation between this criterion and severity scores was .54 and for frequency of occurrence scores .43. As clinical impressions of seriousness of maladaptation increased so too did total severity and frequency scores. Severity scores predicted approximately eleven percent more of the systematic variance in this

criterion than did frequency scores.

Leland (1977) suggested three general types of use for adaptive behaviour measurement. In the first it can be used to provide a direct report of behaviour skills and coping strategies for the individual. Such a use gives important information on the individual's present behaviour and from an intervention perspective provides needed information concerning the relationship between antecedent and conseq-ent environmental events. This basic information provides a frame-work within which the necessary steps can be taken to implement a training programme tailored to the individual's particular pattern of assets and deficits.

Secondly adaptive behaviour measurement can serve as a function-al instrument for the evaluation of programme outcome. At this more general level group profile information is sufficient to allow a service to establish priority areas on the basis of the critical demands represented by those data. In this the major question is whether the service is using procedures appropriate to bring about necessary changes in identified priority areas. This question can be asked both in respect of the individual and related intervention programmes or for the total group with which the service has to deal. Changes within the individual or group profile allows the service to determine whether outcome relates to agreed service goals. This process allows a re-evaluation of goals in terms of behavioural priorities, or a reappraisal of the efficacy of procedures to attain goals, to take place.

Thirdly use of adaptive behaviour measurement functions as an aid to diagnosis and classification. In this the relationship between particular aspects of adaptive activity can be established since there are levels of personal independence, responsibility and socal maladap-tion.

Measurement in the area of adaptation is therefore central to the development of planning, evaluation and diagnosis for those functioning at the defective level. By adopting an adaptive behaviour approach to intervention for the mentally handicapped the possibility emerges of developing a co-ordinated plan which takes account both of the priority need for the development of community services and the needs of the individual, wherever located, for whom plans are made.

Future Development

The evidence from this study is taken to support the applicability and utility of adaptive behaviour measurement in the context of the hospital service. The proposals outlined by Leland 1977 can be understood to be relevant for the development of that service at three levels.

Firstly within the circumstances of the individual unit or ward nursing staff are increasingly being required to provide person specific remedial intervention plans, often based upon models developed in the psychiatric setting (Weed 1969) and the general hospital (Crow 1977). Inevitably and naturally within the hospital service for the mentally handicapped the need has arisen to develop service activities in keeping with the particular characteristics of the residents. The content of such problem-orientated or nursing process records is largely though not exclusively concerned with adaptive behaviour assets and deficits. The effective clinical use of the Adaptive Behavior Scale is here understood to be that of providing the essential base for individual programme planning. The system developed by Bogen and Aanes (1975) based on the Adaptive Behavior Scale allows for the development of priorities, short and long term goals and individual and group programme needs. This comprehensive programming approach offers an attractive model for co-ordinated service development and programme evaluation on a computerised basis.

Secondly given the heterogeneity of behavioural characteristics among the mentally handicapped no ward or administrative unit can either attend to all identifiable deficits or proceed as if certain identified deficits apply to all residents uniformly. Intervention in the absence of an appropriate common metric will inevitably be idiosyncratic, difficult and unsatisfactory for those involved, not least the recipient of the service. Evaluation in the absence of a systematic approach can neither recognise the relative importance of continuing deficits nor relate their occurrence to ward or unit performance as a whole. The data represented in Appendices F to L give an indication of the pressing need for co-ordinated inter-disciplinary intervention on behalf of the residents. Adaptive data should therefore be made available for administrative use at the level of ward or unit supervisory staff. Summary Adaptive Behavior Scale data in terms of occurrence of particular item performance

level allows supervisory staff to identify where and to what extent residents are showing similar patterns of performance. Identified aims can, in that instance, be based as recognised group or individual need and related to available resources represented within the residential setting.

Thirdly adaptive behaviour measurement allows the development within that setting of an administrative tool both in terms of particular plans and proposals for identified groups of residents as well as in regard to the precise identification of the type of service the hospital is being required to provide.

Future development for the use and improvement of adaptive behaviour measurement therefore involves two related processes. In respect of the scale particular attention needs to be paid to improving staff familiarity with it's specific content. In the writers experience ward staff are pleased to regard their work from this perspective since in the main deficits in adaptive behaviour or elevated levels of maladaptive behaviour occupy a great deal of their time. The extension of it's use should be accompanied by steps to improve the reliability of Part I and II. While the incorporation of adaptive behaviour assessment into the routine activity of residential staff may be expected to enhance reliability of Part I, the limitations of Part II in this regard warrant the adoption of an alternative approach. The proposed severity scoring procedure offered by Clements et al. (1981) would seem to be a substantial improvement, even though in the first instance local severity weightings might well be required to be developed. This aspect of the scale warrants a further research input since it's content covers areas of behaviour closely related to reasons for admission and difficulty of discharge. In this regard evaluation of maladaptive behaviour change as a measure of service effectiveness may be expected to assist in the development of needed intervention strategies in this area of behaviour.

Both of these broad areas of service development can be carried forward steadily as an educational and service function of clinical psychology in mental handicap. At present using the existing Adaptive Behavior Scale data-base provided by this study individualised problem-orientated records have been developed in half of the wards represented while a further three have used scale data in relation to identified target groups. These interdisciplinary service developments parallel the model proposed by Kushlick (1976) and embody the recommendations

urged by Clarke and Clarke (1977). As Leland has observed while it is probably impossible at this time to reverse chromosomal damage or modify other bio-medical factors certain behaviours can nonetheless be shaped and the afflicted individual often maintain a happy and useful existence. The need is to narrow and more clearly define the characteristics of those behaviours referred to as retarded. To move from case management to prevention;

> "demands on understanding of the elements that will lend themselves to prevention and reversibility; again this is the real meaning of the adaptive concept in mental retardation." (Leland 1972).

A P P E N D I C E S

APPENDIX A

ADAPTIVE BEHAVIOR SCALE (1974 REVISION)

A A M D
ADAPTIVE BEHAVIOR SCALE
For Children and Adults
1974 Revision

Name _____ Special Identification _____
(last) (first)

Date _____ Sex: M F Date of Birth _____
(mo) (day) (year) (mo) (day) (year)

Name of person filling out Scale _____

Source of information and relationship to person being evaluated (such as "John Doe - Parent," or "Self - Physician") _____

Additional Information: _____

_____

This Scale consists of a number of statements which describe some of the ways people act in different situations. There are several ways of administering the Scale; these, and detailed scoring instructions, appear in the accompanying ***Manual.***

Instructions for the second part of the Scale immediately precede the second half of this booklet.

INSTRUCTIONS FOR PART ONE

There are two kinds of items in the first part of the Scale. The first requires that you select only ONE of the several possible responses. For example:

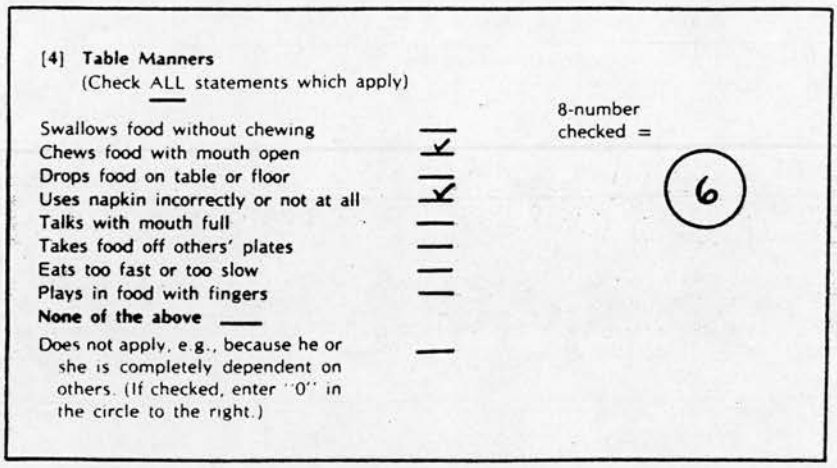
[2] Eating in Public (Circle only ONE)

Orders complete meals in restuarants	3
Orders simple meals like hamburgers or hot dogs	(2)
Orders soft drinks at soda fountain or canteen	1
Does not order at public eating places	0

(2)

Notice that the statements are arranged in order of difficulty: 3,2,1,0. Circle the one statement which best describes the *most difficult* task the person can usually manage. In this example, the individual being observed can order simple meals like hamburgers or hot dogs (2), but cannot order a complete dinner (3). Therefore, (2) is circled in the example above. In scoring, 2 is entered in the circle to the right.

The second type of item asks you to check ALL statements which apply to the person. For example:



[4] **Table Manners**
(Check ALL statements which apply)

Swallows food without chewing	—
Chews food with mouth open	✓
Drops food on table or floor	—
Uses napkin incorrectly or not at all	✓
Talks with mouth full	—
Takes food off others' plates	—
Eats too fast or too slow	—
Plays in food with fingers	—
None of the above	—
Does not apply, e.g., because he or she is completely dependent on others. (If checked, enter "0" in the circle to the right.)	—

8-number checked = 6

In the example above, the second and fourth items are checked to indicate that the person "chews food with mouth open" and "uses napkin incorrectly." In scoring, the number of items checked, 2, is subtracted from 8, and the item score, 6, is entered in the circle to the right. Most items do not, however, require this subtraction; instead, the number checked can be directly entered as the score. The statement "None of the above," which is included for administrative purposes only, is not to be counted in scoring here.

Some items may deal with behaviors that are clearly against local regulations, (e.g., use of the telephone), or behaviors that are not possible for a person to perform because the opportunity does not exist, (e.g., eating in restaurants is not possible for someone who is bedridden). In these instances, you must still complete your rating. Give the person credit for the item if you feel absolutely certain that he or she can and would perform the behavior without additional training had he or she the opportunity to do so. Write "AR" for "Against Regulations" or "HNO" for "Has No Opportunity" next to the rating made in these cases. These notations will not affect the eventual scoring of that item, but will contribute to the understanding and interpretation of the person's adaptive behavior and environment.

Please observe the following general rules in completing the Scale:

1. In items which specify "with help" or "with assistance" for completion of task, these mean with *direct physical assistance.*

2. Give the person credit for an item even if he or she needs verbal prompting or reminding to complete the task unless the item definitely states *"without prompting"* or *"without reminder."*

This Scale is prepared for general use. Therefore, some of the items may not be appropriate for your specific setting, but please do try to complete all of them.

PART ONE

I. INDEPENDENT FUNCTIONING

A. Eating

[1] Use of Table Utensils (Circle only ONE)

Uses knife and fork correctly and neatly	6
Uses table knife for cutting or spreading	5
Feeds self with spoon and fork - neatly	4
Feeds self with spoon and fork - considerable spilling	3
Feeds self with spoon - neatly	2
Feeds self with spoon - considerable spilling	1
Feeds self with fingers or must be fed	0

[2] Eating in Public (Circle only ONE)

Orders complete meals in restaurants	3
Orders simple meals like hamburgers or hot dogs	2
Orders soft drinks at soda fountain or canteen	1
Does not order at public eating places	0

[3] Drinking (Circle only ONE)

Drinks without spilling, holding glass in one hand	3
Drinks from cup or glass unassisted - neatly	2
Drinks from cup or glass unassisted considerable spilling	1
Does not drink from cup or glass unassisted	0

[4] Table Manners (Check ALL statements which apply)

Swallows food without chewing	___
Chews food with mouth open	___
Drops food on table or floor	___
Uses napkin incorrectly or not at all	___
Talks with mouth full	___
Takes food off others' plates	___
Eats too fast or too slow	___
Plays in food with fingers	___
None of the above	___
Does not apply, e.g., because he or she is bedfast, and/or has liquid food only. (If checked, enter "0" in the circle to the right.)	___

8-number checked = ○

A. Eating → ADD 1-4 △

B. Toilet Use

[5] Toilet Training (Circle only ONE)

Never has toilet accidents	4
Never has toilet accidents during the day	3
Occasionally has toilet accidents during the day	2
Frequently has toilet accidents during the day	1
Is not toilet trained at all	0

[6] Self-Care at Toilet
(Check ALL statements which apply)

Lowers pants at the toilet without help	___
Sits on toilet seat without help	___
Uses toilet tissue appropriately	___
Flushes toilet after use	___
Puts on clothes without help	___
Washes hands without help	___
None of the above	___

B. Toilet Use → ADD 5-6 △

C. Cleanliness

[7] Washing Hands and Face
(Check ALL statements which apply)

Washes hands with soap	___
Washes face with soap	___
Washes hands and face with water	___
Dries hands and face	___
None of the above	___

[8] Bathing (Circle only ONE)

Prepares and completes bathing unaided	6
Washes and dries self completely without prompting or helping	5
Washes and dries self reasonably well with prompting	4
Washes and dries self with help	3
Attempts to soap and wash self	2
Cooperates when being washed and dried by others	1
Makes no attempt to wash or dry self	0

[9] Personal Hygiene
(Check ALL statements which apply)

Has strong underarm odor	___
Does not change underwear regularly by self	___
Skin is often dirty if not assisted	___
Does not keep nails clean by self	___
None of the above	___
Does not apply, e.g., because he or she is completely dependent on others (If checked, enter "0" in the circle to the right.)	___

4-number checked = ○

[10] Tooth Brushing (Circle only ONE)

Applies toothpaste and brushes teeth with up and down motion	5
Applies toothpaste and brushes teeth	4
Brushes teeth without help, but cannot apply toothpaste	3
Brushes teeth with supervision	2
Cooperates in having teeth brushed	1
Makes no attempt to brush teeth	0

[11] **Menstruation** (Circle only ONE)
(For males, Circle "no menstruation")

No menstruation	5
Cares for self completely for menstruation without assistance or reminder	5
Cares for self reasonably well during menstruation	4
Helps in changing pads during menstruation	3
Indicates pad needs changing during menstruation	2
Indicates that menstruation had begun	1
Will not care for self or seek help during menstruation	0

C. Cleanliness → ADD 7-11

D. Appearance

[12] **Posture** (Check ALL statements which apply)

- Mouth hangs open ___
- Head hangs down ___
- Stomach sticks out because of posture ___
- Shoulders slumped forward and back bent ___
- Walks with toes out or toes in ___
- Walks with feet far apart ___
- Shuffles, drags, or stamps feet when walking ___
- Walks on tiptoes ___
- **None of the above** ___
- Does not apply, e.g., because he or she is bedfast or non-ambulatory (If checked, enter "0" in the circle to the right.) ___

8-number checked =

[13] **Clothing** (Check ALL statements which apply)

- Clothes do not fit properly if not assisted ___
- Wears torn or unpressed clothing if not prompted ___
- Rewears dirty or soiled clothing if not prompted ___
- Wears clashing color combinations if not prompted ___
- Does not know the difference between work shoes and dress shoes ___
- Does not choose different clothing for formal and informal occasions ___
- Does not wear special clothing for different weather conditions (raincoat, overshoes, etc.) ___
- **None of the above** ___
- Does not apply, e.g., because he or she is completely dependent on others (If checked, enter "0" in the circle to the right.) ___

7-number checked =

D. Appearance → ADD 12-13

E. Care of Clothing

[14] **Care of Clothing**
(Check ALL statements which apply)

- Wipes and polishes shoes when needed ___
- Puts clothes in drawer or chest neatly ___
- Sends clothes to laundry without being reminded ___
- Hangs up clothes without being reminded ___
- **None of the above** ___

E. Care of Clothing → ENTER 14

F. Dressing and Undressing

[15] **Dressing** (Circle only ONE)

Completely dresses self	5
Completely dresses self with verbal prompting only	4
Dresses self by pulling or putting on all clothes with verbal prompting and by fastening (zipping, buttoning, snapping) them with help	3
Dresses self with help in pulling or putting on most clothes and fastening them	2
Cooperates when dressed by extending arms or legs	1
Must be dressed completely	0

[16] **Undressing at Appropriate Times**
(Circle only ONE)

Completely undresses self	5
Completely undresses self with verbal prompting only	4
Undresses self by unfastening (unzipping, unbuttoning, unsnapping) clothes with help and pulling or taking them off with verbal prompting	3
Undresses self with help in unfastening and pulling or taking off most clothes	2
Cooperates when undressed by extending arms or legs	1
Must be completely undressed	0

[17] **Shoes** (Check ALL statements with apply)

- Puts on shoes correctly without assistance ___
- Ties shoe laces without assistance ___
- Unties shoe laces without assistance ___
- Removes shoes without assistance ___
- **None of the above** ___

F. Dressing and Undressing → ADD 15-17

G. Travel

[18] **Sense of Direction** (Circle only ONE)

Goes a few blocks from hospital or school ground, or several blocks from home without getting lost	3
Goes around hospital ground or a few blocks from home without getting lost	2
Goes around cottage, ward, or home alone	1
Gets lost whenever leaving own living area	0

[19] Public Transportation
(Check ALL statements which apply)

Rides on train, long-distance bus or plane independently ___
Rides in taxi independently ___
Rides subway or city bus for unfamiliar journeys independently ___
Rides subway or city bus for familiar journeys independently ___
None of the above ___

C. Travel → **ADD 18-19**

H. Other Independent Functioning

[20] Telephone (Check ALL statements which apply)

Uses telephone directory ___
Uses pay telephone ___
Makes telephone calls from private telephone ___
Answers telephone appropriately ___
Takes telephone messages ___
None of the above ___

[21] Miscellaneous Independent Functioning
(Check ALL statements which apply)

Prepares own bed at night ___
Goes to bed unassisted, e.g., getting in bed, covering with blanket, etc. ___
Has ordinary control of appetite, eats moderately ___
Knows postage rates, buys stamps from Post Office ___
Looks after personal health, e.g., changes wet clothing ___
Deals with simple injuries, e.g., cuts, burns ___
Knows how and where to obtain a doctor's or dentist's help ___
Knows about welfare facilities in the community ___
None of the above ___

H. Other Independent Functioning → **ADD 20-21**

I. INDEPENDENT FUNCTIONING → **ADD TRIANGLES A-H**

II. PHYSICAL DEVELOPMENT

A. Sensory Development
(Observable functioning ability)

[22] Vision (With glasses, if used)
(Circle only ONE)

No difficulty in seeing 3
Some difficulty in seeing 2
Great difficulty in seeing 1
No vision at all 0

[23] Hearing (With hearing aid, if used)
(Circle only ONE)

No difficulty in hearing 3
Some difficulty in hearing 2
Great difficulty in hearing 1
No hearing at all 0

A. Sensory Development → **ADD 22-23**

B. Motor Development

[24] Body Balance (Circle only ONE)

Stands on "tiptoe" for ten seconds if asked 5
Stands on one foot for two seconds if asked 4
Stands without support 3
Stands with support 2
Sits without support 1
Can do none of the above 0

[25] Walking and Running
(Check ALL statements which apply)

Walks alone ___
Walks up and down stairs alone ___
Walks down stairs by alternating feet ___
Runs without falling often ___
Hops, skips or jumps ___
None of the above ___

[26] Control of Hands
(Check ALL statements which apply)

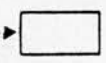
Catches a ball ___
Throws a ball overhand ___
Lifts cup or glass ___
Grasps with thumb and finger ___
None of the above ___

[27] **Limb Function**
(Check ALL statements which apply)

Has effective use of right arm ___
Has effective use of left arm ___
Has effective use of right leg ___
Has effective use of left leg ___
None of the above ___

B. Motor Development → ADD 24-27

II. PHYSICAL DEVELOPMENT → ADD TRIANGLES A-B



[31] **Purchasing** (Circle only ONE)

Buys all own clothing	5
Buys own clothing accessories	4
Makes minor purchases without help (candy, soft drinks, etc.)	3
Does shopping with slight supervision	2
Does shopping with close supervision	1
Does no shopping	0

B. Shopping Skills → ADD 30-31

III. ECONOMIC ACTIVITY → ADD TRIANGLES A-B

III. ECONOMIC ACTIVITY

A. Money Handling and Budgeting

[28] **Money Handling** (Circle only ONE)

Uses banking facilities independently	4
Makes change correctly but does not use banking facilities	3
Adds coins of various denominations, up to one dollar	2
Uses money, but does not make change correctly	1
Does not use money	0

[29] **Budgeting**
(Check ALL statements which apply)

Saves money or tokens for a particular purpose ___
Budgets fares, meals, etc. ___
Spends money with some planning ___
Controls own major expenditures ___
None of the above ___

A. Money Handling and Budgeting → ADD 28-29

B. Shopping Skills

[30] **Errands** (Circle only ONE)

Goes to several shops and specifies different items	4
Goes to one shop and specifies one item	3
Goes on errands for simple purchasing without a note	2
Goes on errands for simple purchasing with a note	1
Cannot be sent on errands	0

IV. LANGUAGE DEVELOPMENT

A. Expression

[32] **Writing** (Circle only ONE)

Writes sensible and understandable letters	5
Writes short notes and memos	4
Writes or prints forty words	3
Writes or prints ten words	2
Writes or prints own name	1
Cannot write or print any words	0

[33] **Preverbal Expression**
(Check ALL statements which apply)

Nods head or smiles to express happiness ___
Indicates hunger ___
Indicates wants by pointing or vocal noises ___
Chuckles or laughs when happy ___
Expresses pleasure or anger by vocal noises ___
Is able to say at least a few words (Enter "6" if checked, regardless of other items.) ___
None of the above ___

[34] **Articulation** (Check ALL statements which apply--if no speech, check "None" and enter "0" in the circle)

4-number checked =

Speech is low, weak, whispered or difficult to hear ___
Speech is slowed, deliberate, or labored ___
Speech is hurried, accelerated, or pushed ___
Speaks with blocking, halting, or other irregular interruptions ___
None of the above ___

[35] **Sentences** (Circle only ONE)

Sometimes uses complex sentences containing "because," "but," etc	3
Asks questions using words such as "why," "how," "what," etc	2
Speaks in simple sentences	1
Speaks in primitive phrases only, or is non-verbal	0

[36] **Word Usage** (Circle only ONE)

Talks about action when describing pictures	4
Names people or objects when describing pictures	3
Names familiar objects	2
Asks for things by their appropriate names	1
Is non-verbal or nearly non-verbal	0

A. Expression → **ADD** 32-36

B. Comprehension

[37] **Reading** (Circle only ONE)

Reads books suitable for children nine years or older	5
Reads books suitable for children seven years old	4
Reads simple stories or comics	3
Reads various signs, e.g., "NO PARKING," "ONE WAY," "MEN," WOMEN," etc.	2
Recognizes ten or more words by sight	1
Recognizes fewer than ten words or none at all	0

[38] **Complex Instructions**
(Check ALL statements which apply)

- Understands instructions containing prepositions, e.g., "on," "in," "behind," "under," etc. ___
- Understands instructions referring to the order in which things must be done, e.g., "first do- then do-" ___
- Understands instructions requiring a decision: "If —, do this, but if not, do —" ___

None of the above ___

B. Comprehension → **ADD** 37-38

C. Social Language Development

[39] **Conversation**
(Check ALL statements which apply)

- Uses phrases such as "please," and "thank you" ___
- Is sociable and talks during meals ___
- Talks to others about sports, family, group activities, etc ___

None of the above ___

[40] **Miscellaneous Language Development**
(Check ALL statements which apply)

- Can be reasoned with ___
- Obviously responds when talked to ___
- Talks sensibly ___
- Reads books, newspapers, magazines for enjoyment ___
- Repeats a story with little or no difficulty ___
- Fills in the main items on application form reasonably well ___

None of the above ___

C. Social Language Development → **ADD** 39-40

IV. LANGUAGE DEVELOPMENT → **ADD TRIANGLES A-C**

V. NUMBERS AND TIME

[41] **Numbers** (Circle only ONE)

Does simple addition and subtraction	5
Counts ten or more objects	4
Mechanically counts to ten	3
Counts two objects by saying "one, two"	2
Discriminates between "one" and "many" or "a lot"	1
Has no understanding of numbers	0

[42] **Time** (Check ALL statements which apply)

Tells time by clock or watch correctly to the minute ___
Understands time intervals, e.g., between "3:30" and "4:30" ___
Understands time equivalents, e.g., "9:15" is the same as "quarter past nine" ___
Associates time on clock with various actions and events ___
None of the above ___

[43] **Time Concept**
(Check ALL statements which apply)

Names the days of the week ___
Refers correctly to "morning" and "afternoon" ___
Understands difference between day-week, minute-hour, month-year, etc. ___
None of the above ___

V. NUMBERS AND TIME → **ADD 41-43**

VI. DOMESTIC ACTIVITY

A. Cleaning

[44] **Room Cleaning** (Circle only ONE)

Cleans room well, e.g., sweeping, dusting and tidying 2
Cleans room but not thoroughly 1
Does not clean room at all 0

[45] **Laundry** (Check ALL statements which apply)

Washes clothing ___
Dries clothing ___
Folds clothing ___
Irons clothing when appropriate ___
None of the above ___

A. Cleaning → **ADD 44-45**

B. Kitchen

[46] **Table Setting** (Circle only ONE)

Places all eating utensils, as well as napkins, salt, pepper, sugar, etc., in positions learned 3
Places plates, glasses, and utensils in positions learned 2
Places silver, plates, cups, etc., on the table 1
Does not set table at all 0

[47] **Food Preparation** (Circle only ONE)

Prepares an adequate complete meal (may use canned or frozen food) 3
Mixes and cooks simple food, e.g., fries eggs, makes pancakes, cooks TV dinners, etc. 2
Prepares simple foods requiring no mixing or cooking, e.g., sandwiches, cold cereal, etc. 1
Does not prepare food at all 0

[48] **Table Clearing** (Circle only ONE)

Clears table of breakable dishes and glassware 2
Clears table of unbreakable dishes and silverware 1
Does not clear table at all 0

B. Kitchen → **ADD 46-48**

C. Other Domestic Activities

[49] **General Domestic Activity**
(Check ALL statements which apply)

Washes dishes well ___
Makes bed neatly ___
Helps with household chores when asked ___
Does household tasks routinely ___
None of the above ___

C. Other Domestic Activities → **ENTER 49**

VI. DOMESTIC ACTIVITY → **ADD TRIANGLES A-C**

VII. VOCATIONAL ACTIVITY

[50] **Job Complexity** (Circle only ONE)

Performs a job requiring use of tools or machinery, e.g., shop work, sewing, etc. 2
Performs simple work, e.g., simple gardening, mopping floors, emptying trash, etc. 1
Performs no work at all 0

[51] **Job Performance**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle).

4-number checked =

Endangers others because of carelessness ___
Does not take care of tools ___
Is a very slow worker ___
Does sloppy, inaccurate work ___
None of the above ___

[52] **Work Habits**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle.)

5-number checked =

Is late from work without good reason ___
Is often absent from work ___
Does not complete jobs without constant encouragement ___
Leaves work station without permission ___
Grumbles or gripes about work ___
None of the above ___

VII. VOCATIONAL ACTIVITY → ADD 50-52

VIII. SELF-DIRECTION

A. Initiative

[53] **Initiative** (Circle only ONE)

Initiates most of own activities, e.g., tasks, games, etc. 3
Asks if there is something to do, or explores surroundings, e.g., home, yard, etc. 2
Will engage in activities only if assigned or directed 1
Will not engage in activities, e.g., putting away toys, etc 0

[54] **Passivity**
(Check ALL statements which apply)

6-number checked =

Has to be made to do things ___
Has no ambition ___
Seems to have no interest in things ___
Finishes task last because of wasted time ___
Is unnecessarily dependent on others for help ___
Movement is slow and sluggish ___
None of the above ___
Does not apply, e.g., because he or she is totally dependent on others (If checked, enter "0" in the circle to the right.) ___

A. Initiative → ADD 53-54

B. Perseverance

[55] **Attention** (Circle only ONE)

Will pay attention to purposeful activities for more than fifteen minutes, e.g., playing games, reading, cleaning up 4
Will pay attention to purposeful activities for at least fifteen minutes 3
Will pay attention to purposeful activities for at least ten minutes 2
Will pay attention to purposeful activities for at least five minutes 1
Will not pay attention to purposeful activities for as long as five minutes 0

[56] **Persistence**
(Check ALL statements which apply)

4-number checked =

Becomes easily discouraged ___
Fails to carry out tasks ___
Jumps from one activity to another ___
Needs constant encouragement to complete task ___
None of the above ___
Does not apply, e.g., because he or she is totally incapable of any organized activities. (If checked, enter "0" in the circle to the right.) ___

B. Perseverance → ADD 55-56

C. Leisure Time

[57] **Leisure Time Activity**
(Check ALL statements which apply)

Organizes leisure time on a fairly complex level, e.g., plays billiards, fishes, etc. ___
Has hobby, e.g., painting, embroidery, collecting stamps or coins ___
Organizes leisure time adequately on a simple level, e.g., watching television, listening to phonograph, radio, etc ___
None of the above ___

C. Leisure Time → ENTER 57

VIII. SELF-DIRECTION → ADD TRIANGLES A-C

IX. RESPONSIBILITY

[58] **Personal Belongings** (Circle only ONE)

Very dependable--always takes care of personal belongings 3
Usually dependable--usually takes care of personal belongings 2
Unreliable--seldom takes care of personal belongings 1
Not responsible at all--does not take care of personal belongings 0

[59] General Responsibility (Circle only ONE)

Very conscientious and assumes much responsibility--makes a special effort; the assigned activities are always performed 3
Usually dependable--makes an effort to carry out responsibility; one can be reasonably certain that the assigned activity will be performed 2
Unreliable--makes little effort to carry out responsibility; one is uncertain that the assigned activity will be performed 1
Not given responsibility; is unable to carry out responsibility at all 0

IX. RESPONSIBILITY ADD 58-59 →

X. SOCIALIZATION

[60] Cooperation (Circle only ONE)

Offers assistance to others 2
Is willing to help if asked 1
Never helps others 0

[61] Consideration for Others
(Check ALL statements which apply)

Shows interest in the affairs of others ___
Takes care of others' belongings ___
Directs or manages the affairs of others when needed ___
Shows consideration for others' feelings ___
None of the above ___

[62] Awareness of Others
(Check ALL statements which apply)

Recognizes own family ___
Recognizes people other than family ___
Has information about others, e.g., job, address, relation to self ___
Knows the names of people close to him, e.g., classmates, neighbors ___
Knows the names of people not regularly encountered ___
None of the above ___

[63] Interaction With Others (Circle only ONE)

Interacts with others in group games or activity 3
Interacts with others for at least a short period of time, e.g., showing or offering toys, clothing or objects 2
Interacts with others imitatively with little interaction 1
Does not respond to others in a socially acceptable manner 0

[64] Participation in Group Activities
(Circle only ONE)

Initiates group activities (leader and organizer) 3
Participates in group activities spontaneously and eagerly (active participant) 2
Participates in group activities if encouraged to do so (passive participant) 1
Does not participate in group activities 0

[65] Selfishness
(Check ALL statements which apply)

Refuses to take turns ___
Does not share with others ___
Gets mad if he does not get his way ___
Interrupts aide or teacher who is helping another person ___
None of the above ___
Does not apply, e.g., because he or she has no social interaction or is profoundly withdrawn. (If checked, enter "0" in the circle to the right) ___

4-number checked =

[66] Social Maturity
(Check ALL statements which apply)

Is too familiar with strangers ___
Is afraid of strangers ___
Does anything to make friends ___
Likes to hold hands with everyone ___
Is at someone's elbow constantly ___
None of the above ___
Does not apply, e.g., because he or she has no social interaction or is profoundly withdrawn. (If checked, enter "0" in the circle to the right.) ___

5-number checked =

X. SOCIALIZATION ADD 60-66 →

INSTRUCTIONS FOR PART TWO

Part Two contains only one type of item. The following is an example.

[2] **Damages Personal Property**	**Occasionally**	**Frequently**	
Rips, tears, or chews own clothing	(1)	2	
Soils own property	1	(2)	(5)
Tears up own magazines, books, or other possessions	1	(2)	
Other (specify: _____)	1	2	
_____ **None of the above**	**Total** 1	4	

Select those of the statements which are true of the individual being evaluated, and circle (1) if the behavior occurs occasionally, or (2) if it occurs frequently. Check "None of the Above" where appropriate. In scoring, total each column on the bottom (Total) line, and enter the sum of these totals in the circle to the right. When "None of the above" is checked, enter 0 in the circle to the right. In the above example, the first statement is true occasionally, and the last two statements are true frequently; therefore, a score of 5 has been entered.

"Occasionally" signifies that the behavior occurs once in a while, or now and then, and "Frequently" signifies that the behavior occurs quite often, or habitually.

Use the space for "Other" when:

1. The person has related behavior problems *in addition* to those circled.
2. The person has behavior problems that are *not covered* by any of the examples listed.

The behavior listed under "Other" must be a specific example of the behavior problem stated in the item.

Some of the items in Part Two describe behaviors which need not be considered maladaptive for very young children (for example, pushing others). The question of whether a given behavior is adaptive or maladaptive depends on the way that particular behavior is viewed by people in our society. Nonetheless, in completing this Scale you are asked to record a person's behavior as accurately as possible, ignoring, for the moment, your personal biases; then, when you later interpret the impact of the reported behaviors, you should take into consideration societal attitudes.

PART TWO

I. VIOLENT AND DESTRUCTIVE BEHAVIOR

[1] Threatens or Does Physical Violence

	Occasionally	Frequently
Uses threatening gestures	1	2
Indirectly causes injury to others	1	2
Spits on others	1	2
Pushes, scratches or pinches others	1	2
Pulls others' hair, ears, etc.	1	2
Bites others	1	2
Kicks, strikes or slaps others	1	2
Throws objects at others	1	2
Chokes others	1	2
Uses objects as weapons against others	1	2
Hurts animals	1	2
Other (specify: _____)	1	2
None of the above	Total	

[2] Damages Personal Property

Rips, tears or chews own clothing	1	2
Soils own property	1	2
Tears up own magazines, books, or other possessions	1	2
Other (specify: _____)	1	2
None of the above	Total	

[3] Damages Others' Property

Rips, tears, or chews others' clothing	1	2
Soils others' property	1	2
Tears up others' magazines, books, or personal possessions	1	2
Other (specify: _____)	1	2
None of the above	Total	

[4] Damages Public Property

Tears up magazines, books or other public property	1	2
Is overly rough with furniture (kicks, mutilates, knocks it down)	1	2
Breaks windows	1	2
Stuffs toilet with paper, towels or other solid objects that cause an overflow	1	2
Attempts to set fires	1	2
Other (specify: _____)	1	2
None of the above	Total	

[5] Has Violent Temper, or Temper Tantrums

	Occasionally	Frequently
Cries and screams	1	2
Stamps feet while banging objects or slamming doors, etc.	1	2
Stamps feet, screaming and yelling	1	2
Throws self on floor, screaming and yelling	1	2
Other (specify: _____)	1	2
None of the above	Total	

I. VIOLENT AND DESTRUCTIVE BEHAVIOR → ADD 1-5 → [ ]

II. ANTISOCIAL BEHAVIOR

[6] Teases or Gossips About Others

Gossips about others	1	2
Tells untrue or exaggerated stories about others	1	2
Teases others	1	2
Picks on others	1	2
Makes fun of others	1	2
Other (specify: _____)	1	2
None of the above	Total	

[7] Bosses and Manipulates Others

Tries to tell others what to do	1	2
Demands services from others	1	2
Pushes others around	1	2
Causes fights among other people	1	2
Manipulates others to get them in trouble	1	2
Other (specify: _____)	1	2
None of the above	Total	

[8] Disrupts Others' Activities

Is always in the way	1	2
Interferes with others' activities, e.g., by blocking passage, upsetting wheelchairs, etc	1	2
Upsets others' work	1	2
Knocks around articles that others are working with, e.g., puzzles, card games, etc.	1	2
Snatches things out of others' hands	1	2
Other (specify: _____)	1	2
None of the above	Total	

	Occasionally	Frequently
[9] Is Inconsiderate of Others		
Keeps temperature in public areas uncomfortable for others, e.g., opens or closes window, changes thermostat	1	2
Turns TV, radio or phonograph on too loudly	1	2
Makes loud noises while others are reading	1	2
Talks too loudly	1	2
Sprawls over furniture or space needed by others	1	2
Other (specify: _____)	1	2
_____ None of the above Total		
[10] Shows Disrespect for Others' Property		
Does not return things that were borrowed	1	2
Uses others' property without permission	1	2
Loses others' belongings	1	2
Damages others' property	1	2
Does not recognize the difference between own and others' property	1	2
Other (specify: _____)	1	2
_____ None of the above Total		
[11] Uses Angry Language		
Uses hostile language, e.g., "stupid jerk," "dirty pig," etc.	1	2
Swears, curses, or uses obscene language	1	2
Yells or screams threats of violence	1	2
Verbally threatens others, suggesting physical violence	1	2
Other (specify: _____)	1	2
_____ None of the above Total		

II. ANTISOCIAL BEHAVIOR

ADD 6-11 → ☐

III. REBELLIOUS BEHAVIOR

	Occasionally	Frequently
[12] Ignores Regulations or Regular Routines		
Has negative attitude toward rules but usually conforms	1	2
Has to be forced to go through waiting lines, e.g., lunch lines, ticket lines, etc.	1	2
Violates rules or regulations, e.g., eats in restricted areas, disobeys traffic signals, etc.	1	2
Refuses to participate in required activities, e.g., work, school, etc.	1	2
Other (specify: _____)	1	2
_____ None of the above Total		
[13] Resists Following Instructions, Requests or Orders		
Gets upset if given a direct order	1	2
Plays deaf and does not follow instructions	1	2
Does not pay attention to instructions	1	2
Refuses to work on assigned subject	1	2
Hesitates for long periods before doing assigned tasks	1	2
Does the opposite of what was requested	1	2
Other (specify _____)	1	2
_____ None of the above Total		
[14] Has Impudent or Rebellious Attitude Toward Authority		
Resents persons in authority, e.g., teachers, group leaders, ward personnel, etc.	1	2
Is hostile toward people in authority	1	2
Mocks people in authority	1	2
Says that he can fire people in authority	1	2
Says relative will come to kill or harm persons in authority	1	2
Other (specify _____)	1	2
_____ None of the above Total		
[15] Is Absent From, or Late For, the Proper Assignments or Places		
Is late to required places or activities	1	2
Fails to return to places where he is supposed to be after leaving, e.g., going to toilet, running an errand, etc.	1	2
Leaves place of required activity without permission, e.g., work, class, etc.	1	2
Is absent from routine activities, e.g., work, class, etc.	1	2
Stays out late at night from home, hospital ward, dormitory, etc.	1	2
Other (specify _____)	1	2
_____ None of the above Total		

	Occasionally	Frequently

[16] Runs Away or Attempts to Run Away

Attempts to run away from hospital, home, or school ground	1	2
Runs away from group activities, e.g., picnics, school buses, etc.	1	2
Runs away from hospital, home, or school ground	1	2
Other (specify: _____)	1	2
None of the above		
Total		

[17] Misbehaves in Group Settings

Interrupts group discussion by talking about unrelated topics	1	2
Disrupts games by refusing to follow rules	1	2
Disrupts group activities by making loud noises or by acting up	1	2
Does not stay in seat during lesson period, lunch period, or other group sessions	1	2
Other (specify: _____)	1	2
None of the above		
Total		

III. REBELLIOUS BEHAVIOR → ADD 12-17 [ ]

IV. UNTRUSTWORTHY BEHAVIOR

[18] Takes Others' Property Without Permission

Has been suspected of stealing	1	2
Takes others' belongings if not kept in place or locked	1	2
Takes others' belongings from pockets, purses, drawers, etc	1	2
Takes others' belongings by opening or breaking locks	1	2
Other (specify: _____)	1	2
None of the above		
Total		

[19] Lies or Cheats

Twists the truth to own advantage	1	2
Cheats in games, tests, assignments, etc	1	2
Lies about situations	1	2
Lies about self	1	2
Lies about others	1	2
Other (specify: _____)	1	2
None of the above		
Total		

IV. UNTRUSTWORTHY BEHAVIOR → ADD 18-19 [ ]

V. WITHDRAWAL

[20] Is Inactive	Occasionally	Frequently
Sits or stands in one position for a long period of time	1	2
Does nothing but sit and watch others	1	2
Falls asleep in a chair	1	2
Lies on the floor all day	1	2
Does not seem to react to anything	1	2
Other (specify: _____)	1	2
None of the above		
Total		

[21] Is Withdrawn

Seems unaware of surroundings	1	2
Is difficult to reach or contact	1	2
Is apathetic and unresponsive in feeling	1	2
Has a blank stare	1	2
Has a fixed expression	1	2
Other (specify: _____)	1	2
None of the above		
Total		

[22] Is Shy

Is timid and shy in social situations	1	2
Hides face in group situations, e.g., parties, informal gatherings, etc.	1	2
Does not mix well with others	1	2
Prefers to be alone	1	2
Other (specify: _____)	1	2
None of the above		
Total		

V. WITHDRAWAL → ADD 20-22 [ ]

VI. STEREOTYPED BEHAVIOR AND ODD MANNERISMS

[23] Has Stereotyped Behaviors

Drums fingers	1	2
Taps feet continually	1	2
Has hands constantly in motion	1	2
Slaps, scratches, or rubs self continually	1	2
Waves or shakes parts of the body repeatedly	1	2
Moves or rolls head back and forth	1	2
Rocks body back and forth	1	2
Paces the floor	1	2
Other (specify: _____)	1	2
None of the above		
Total		

[24] Has Peculiar Posture or Odd Mannerisms

	Occasionally	Frequently
Holds head tilted	1	2
Sits with knees under chin	1	2
Walks on tiptoes	1	2
Lies on floor with feet up in the air	1	2
Walks with fingers in ears or with hands on head	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

VI. STEREOTYPED BEHAVIOR AND ODD MANNERISMS — ADD 23-24 → ☐

VII. INAPPROPRIATE INTERPERSONAL MANNERS

[25] Has Inappropriate Interpersonal Manners

Talks too close to others' faces	1	2
Blows on others' faces	1	2
Burps at others	1	2
Kisses or licks others	1	2
Hugs or squeezes others	1	2
Touches others inappropriately	1	2
Hangs on to others and does not let go	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

VII. INAPPROPRIATE INTERPERSONAL MANNERS — ENTER 25 → ☐

VIII. UNACCEPTABLE VOCAL HABITS

[26] Has Disturbing Vocal or Speech Habits

Giggles hysterically	1	2
Talks loudly or yells at others	1	2
Talks to self loudly	1	2
Laughs inappropriately	1	2
Makes growling, humming, or other unpleasant noises	1	2
Repeats a word or phrase over and over	1	2
Mimics others' speech	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

VIII. UNACCEPTABLE VOCAL HABITS — ENTER 26 → ☐

IX. UNACCEPTABLE OR ECCENTRIC HABITS

[27] Has Strange And Unacceptable Habits

	Occasionally	Frequently
Smells everything	1	2
Inappropriately stuffs things in pockets shirts, dresses or shoes	1	2
Pulls threads out of own clothing	1	2
Plays with things he is wearing, e.g., shoe string, buttons, etc.	1	2
Saves and wears unusual articles, e.g., safety pins, bottle caps, etc.	1	2
Hoards things, including foods	1	2
Plays with spit	1	2
Plays with feces or urine	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

[28] Has Unacceptable Oral Habits

Drools	1	2
Grinds teeth audibly	1	2
Spits on the floor	1	2
Bites fingernails	1	2
Chews or sucks fingers or other parts of the body	1	2
Chews or sucks clothing or other inedibles	1	2
Eats inedibles	1	2
Drinks from toilet stool	1	2
Puts everything in mouth	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

[29] Removes or Tears Off Own Clothing

Tears off buttons or zippers	1	2
Inappropriately removes shoes or socks	1	2
Undresses at the wrong times	1	2
Takes off all clothing while on the toilet	1	2
Tears off own clothing	1	2
Refuses to wear clothing	1	2
Other (specify _____)	1	2
_____ None of the above	Total	

[30] Has Other Eccentric Habits and Tendencies

	Occasionally	Frequently
Is overly particular about places to sit or sleep	1	2
Stands in a favorite spot, e g , by window, by door, etc	1	2
Sits by anything that vibrates	1	2
Is afraid to climb stairs or to go down stairs	1	2
Does not want to be touched	1	2
Screams if touched	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

IX. UNACCEPTABLE OR ECCENTRIC HABITS — ADD 27-30 → [ ]

X. SELF-ABUSIVE BEHAVIOR

[31] Does Physical Violence to Self

Bites or cuts self	1	2
Slaps or strikes self	1	2
Bangs head or other parts of the body against objects	1	2
Pulls own hair, ears, etc.	1	2
Scratches or picks self causing injury	1	2
Soils and smears self	1	2
Purposely provokes abuse from others	1	2
Picks at any sores he might have	1	2
Pokes objects in own ears, eyes, nose, or mouth	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

X. SELF-ABUSIVE BEHAVIOR — ENTER 31 → [ ]

XI. HYPERACTIVE TENDENCIES

[32] Has Hyperactive Tendencies

Talks excessively	1	2
Will not sit still for any length of time	1	2
Constantly runs or jumps around the room or hall	1	2
Moves or fidgets constantly	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

XI. HYPERACTIVE TENDENCIES — ENTER 32 → [ ]

XII. SEXUALLY ABERRANT BEHAVIOR

[33] Engages in Inappropriate Masturbation

	Occasionally	Frequently
Has attempted to masturbate openly	1	2
Masturbates in front of others	1	2
Masturbates in group	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

[34] Exposes Body Improperly

Exposes body unnecessarily after using toilet	1	2
Stands in public places with pants down or with dress up	1	2
Exposes body excessively during activities, e g , playing, dancing, sitting, etc.	1	2
Undresses in public places, or in front of lighted windows	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

[35] Has Homosexual Tendencies

Is sexually attracted to members of the same sex	1	2
Has approached others and attempted homosexual acts	1	2
Has engaged in homosexual activity	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

[36] Sexual Behavior That Is Socially Unacceptable

Is overly seductive in appearance or actions	1	2
Hugs or caresses too intensely in public	1	2
Needs watching with regard to sexual behavior	1	2
Lifts or unbuttons others' clothing to touch intimately	1	2
Has sexual relations in public places	1	2
Is overly aggressive sexually	1	2
Has raped others	1	2
Is easily taken advantage of sexually	1	2
Other (specify _____)	1	2
_____ None of the above		

Total

XII. SEXUALLY ABERRANT BEHAVIOR — ADD 33-36 → [ ]

XIII. PSYCHOLOGICAL DISTURBANCES

[37] Tends to Overestimate Own Abilities

	Occasionally	Frequently
Does not recognize own limitations	1	2
Has too high an opinion of self	1	2
Talks about future plans that are unrealistic	1	2
Other (specify _____)	1	2
None of the above	Total	

[38] Reacts Poorly to Criticism

Does not talk when corrected	1	2
Withdraws or pouts when criticized	1	2
Becomes upset when criticized	1	2
Screams and cries when corrected	1	2
Other (specify _____)	1	2
None of the above	Total	

[39] Reacts Poorly to Frustration

Blames own mistakes on others	1	2
Withdraws or pouts when thwarted	1	2
Becomes upset when thwarted	1	2
Throws temper tantrums when does not get own way	1	2
Other (specify _____)	1	2
None of the above	Total	

[40] Demands Excessive Attention or Praise

Wants excessive praise	1	2
Is jealous of attention given to others	1	2
Demands excessive reassurance	1	2
Acts silly to gain attention	1	2
Other (specify _____)	1	2
None of the above	Total	

[41] Seems To Feel Persecuted

Complains of unfairness, even when equal shares or privileges have been given	1	2
Complains, "Nobody loves me"	1	2
Says, "Everybody picks on me"	1	2
Says, "People talk about me"	1	2
Says, "People are against me"	1	2
Acts suspicious of people	1	2
Other (specify _____)	1	2
None of the above	Total	

[42] Has Hypochondriacal Tendencies

	Occasionally	Frequently
Complains about imaginary physical ailments	1	2
Pretends to be ill	1	2
Acts sick after illness is over	1	2
Other (specify _____)	1	2
None of the above	Total	

[43] Has Other Signs of Emotional Instabilities

Changes mood without apparent reason	1	2
Complains of bad dreams	1	2
Cries out while asleep	1	2
Cries for no apparent reason	1	2
Seems to have no emotional control	1	2
Vomits when upset	1	2
Appears insecure or frightened in daily activities	1	2
Talks about people or things that cause unrealistic fears	1	2
Talks about suicide	1	2
Has made an attempt at suicide	1	2
Other (specify _____)	1	2
None of the above	Total	

XIII. PSYCHOLOGICAL DISTURBANCES → ADD 37-43 [ ]

XIV. USE OF MEDICATIONS

[44] Use of Prescribed Medication

Uses tranquilizers	1	2
Uses sedatives	1	2
Uses anticonvulsant drugs	1	2
Uses stimulants	1	2
Other (specify _____)	1	2
None of the above	Total	

XIV. USE OF MEDICATIONS → ENTER 44 [ ]

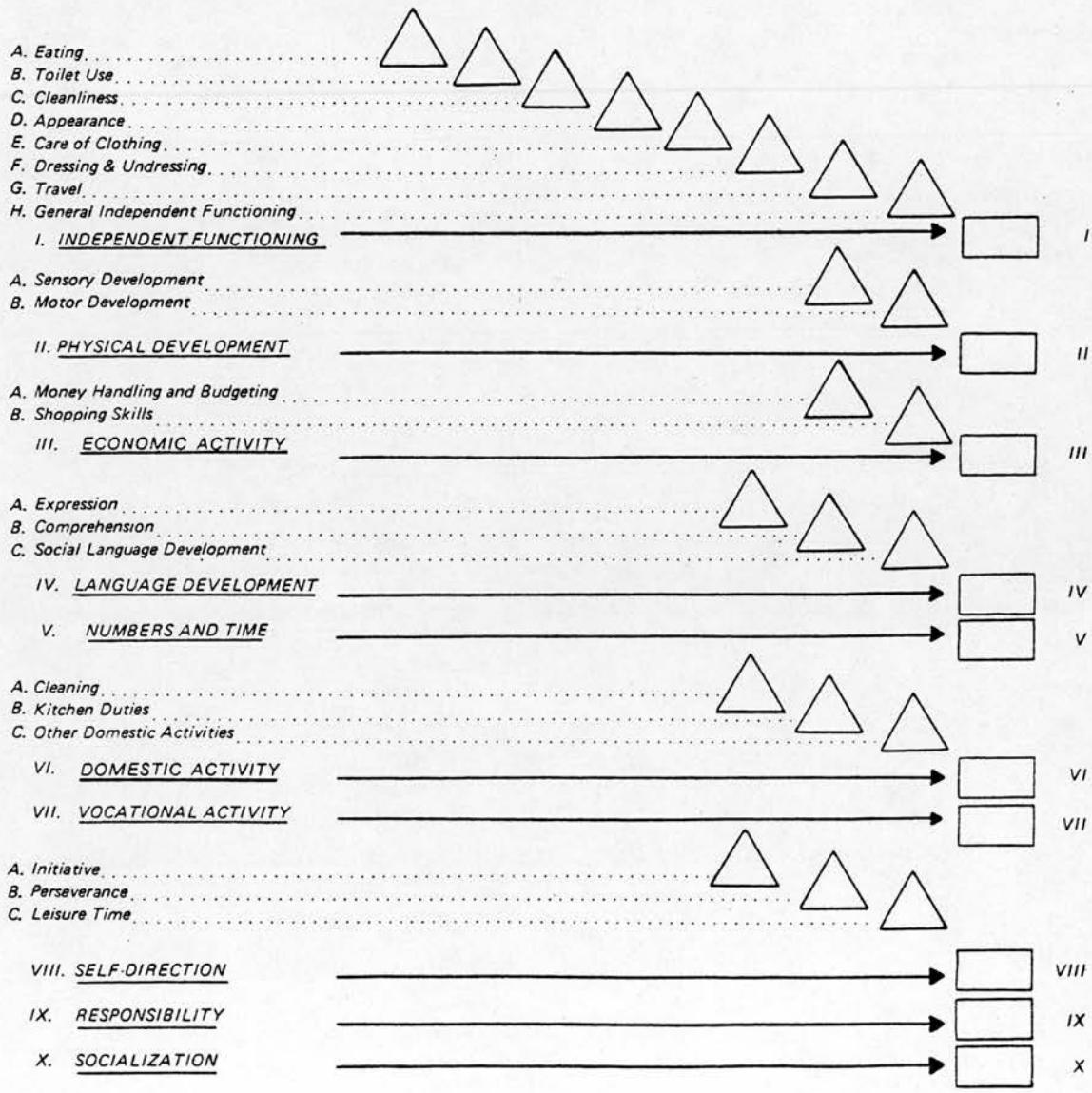
Identification _____

Age _____

Sex _____

Date of Administration _____

DATA SUMMARY SHEET - AAMD ADAPTIVE BEHAVIOR SCALE
PART ONE



DATA SUMMARY SHEET

PART TWO

I. VIOLENT AND DESTRUCTIVE BEHAVIOR	☐	I
II. ANTISOCIAL BEHAVIOR	☐	II
III. REBELLIOUS BEHAVIOR	☐	III
IV. UNTRUSTWORTHY BEHAVIOR	☐	IV
V. WITHDRAWAL	☐	V
VI. STEREOTYPED BEHAVIOR AND ODD MANNERISMS	☐	VI
VII. INAPPROPRIATE INTERPERSONAL MANNERS	☐	VII
VIII. UNACCEPTABLE VOCAL HABITS	☐	VIII
IX. UNACCEPTABLE OR ECCENTRIC HABITS	☐	IX
X. SELF-ABUSIVE BEHAVIOR	☐	X
XI. HYPERACTIVE TENDENCIES	☐	XI
XII. SEXUALLY ABERRANT BEHAVIOR	☐	XII
XIII. PSYCHOLOGICAL DISTURBANCES	☐	XIII
XIV. USE OF MEDICATIONS	☐	XIV

Identification _____

Age _____

Sex _____

Date of Administration _____

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

Deciles	I Independent Functioning	II Physical Development	III Economic Activity	IV Language Development	V Numbers & Time	VI Domestic Activity	VII Vocational Activity	VIII Self-Direction	IX Responsibility	X Socialization
D9 (90)										
D8 (80)										
D7 (70)										
D6 (60)										
D5 (50)										
D4 (40)										
D3 (30)										
D2 (20)										
D1 (10)										
Attained Scores										

Identification _____

Age _____

Sex _____

Date of Administration _____

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART TWO

Deciles	I Violent & Destructive Behavior	II Antisocial Behavior	III Rebellious Behavior	IV Untrustworthy Behavior	V Withdrawal	VI Stereotyped Behavior and Odd Mannerisms	VII Inappropriate Interpersonal Manners	VIII Unacceptable Vocal Habits	IX Unacceptable or Eccentric Habits	X Self-Abusive Behavior	XI Hyperactive Tendencies	XII Sexually Aberrant Behavior	XIII Psychological Disturbances	XIV Use of Medications
D9 (90)														
D8 (80)														
D7 (70)														
D6 (60)														
D5 (50)														
D4 (40)														
D3 (30)														
D2 (20)														
D1 (10)														
Attained Scores														

AAMD ADAPTIVE BEHAVIOR SCALE

KAZUO NIHIRA
RAY FOSTER
MAX SHELLHAAS
HENRY LELAND

1974 Revision

AAMD *ad hoc* Committee on
the Adaptive Behavior Scale

Chairman, Arnold A. Madow
Henry Leland
Bruce C. Libby
Kazuo Nihira

Albert J. Berkowitz, *Executive Director*
American Association on Mental Deficiency
5101 Wisconsin Avenue, N.W.
Washington, D.C. 20016

APPENDIX B

ADAPTIVE BEHAVIOR SCALE: ITEM CHANGES

APPENDIX B

Table 1

ITEM CHANGES ABS PART I

	ABS ITEM	REDESCRIPTION
2.	Orders complete meal in restaurants.	Orders complete meal in cafe or restaurant using a menu.
	Orders simple meal like hamburgers or hot dogs.	Orders simple meals like hamburgers and chips in self-service cafeterias.
	Orders soft drinks in soda fountains or canteen.	Orders tea, coffee or soft drinks in a cafe.
4.	Uses napkin incorrectly or not at all.	Uses serviette incorrectly or not at all.
13.	Clothes do not fit properly if not assisted.	Clothes only fit properly if assisted.
15.	Dresses self by pulling or putting on all clothes with verbal prompting and by fastening (zipping, buttoning, snapping) them with help.	Dresses self with verbal prompting but needs help with fastenings.
	Dresses self with help in pulling or putting on most clothes and fastening them.	Needs help with most clothes and fastenings when dressing.
16.	Undresses self by unfastening (unzipping, unbuttoning, unsnapping) clothes with help and pulling or taking them off with verbal prompting.	Undresses self with verbal prompting but needs help with fastenings.
	Dresses self with help in pulling or putting on most clothes and fastening them.	Needs help with most clothes and fastenings when undressing.
19.	Rides on train long-distant bus or plane independently.	Uses train or long distance bus independently.
	Rides in taxi independently.	Uses taxi independently.
	Rides subway or city bus for unfamiliar journeys independently.	Uses bus for unfamiliar journeys independently.
	Rides subway or city bus for familiar journeys independently.	Uses bus for familiar journeys independently.

APPENDIX B

Table 1 (cont'd)

ITEM CHANGES ABS PART I	
ABS ITEM	REDESCRIPTION
20. Makes telephone calls from private telephone.	Makes telephone calls from private or hospital internal telephone.
26. Throws a ball overhand.	Throws a ball overarm.
28. Adds coins of various denominations up to one dollar.	Adds coins of various denominations up to 1 Pound.

ITEM CHANGES ABS PART II	
ABS ITEM	REDESCRIPTION
12. Has to be forced to go through waitings lines, eg. lunch lines, ticket lines, etc.	Has to be forced to comply with mealtime and bathing routines.
Violates rule and regulations eg. eats in restricted areas, disobeys traffic signals, etc.	Breaks rules and regulations.
Refuses to participate in required activities, eg. work, school, etc.	Refuses to participate in required ward or work activities.
14. Resents persons in authority eg. teachers, group leaders, ward personnel etc.	Resents persons in authority, eg. teachers, group leaders.

APPENDIX C

ADAPTIVE BEHAVIOR SCALE: STANDARDISED INSTRUCTIONS

APPENDIX C

ADAPTIVE BEHAVIOR SCALE: PART I

INSTRUCTIONS:

The sheet attached to your clipboard is where you will record your ratings. The patients' names are on the left. Opposite each name is a row which runs across the sheet (Illustrate).

The sheet is also divided into columns. These go up and down it (Illustrate). Most columns have a number or a number plus a letter at their top. Every card you will see has a number or a number plus a letter on it. These identifying numbers and letters are to help you put your rating in the right place.

Notice that some columns have letters only at their top. They are for my use. We shall not put anything in them when we come to them. They are not to be written in.

Any questions?

This scale consists of a number of statements which describe some of the ways people act in different situations. There are two kinds of item in this part of the scale. The first requires you to select one of several possible statements from your card. Let us have a look at an example of this kind of item.

Look at this example card. This is Card Number 2. It has to do with Eating in Public. Notice that the statements on the card are arranged in order of difficulty. Each different level of difficulty has a number against it - 3, 2, 1, 0. Three is the most difficult, zero is the least difficult.

With this kind of item your job is first to read all the statements on it, and then, select one statement which best describes the most difficult task the person you are rating can usually manage.

Any questions?

Perhaps the first person you are considering can order a soft drink (Level 1) but cannot order a simple meal like a hamburger (Level 2). In your judgement Level 1 is the statement which best describes the most difficult task the person can usually manage. In this example from Card 2, you would put your rating in the row opposite that person's name - in column 2. You would simply write the number in that particular box.

Any questions?

You then consider the next patient on your sheet and having selected the statement which best describes the most difficult task he/she can usually manage you again record the number of that statement opposite their name in column 2. This continues in the same way until all the patients have been rated on that card.

Any questions?

Let us try this rating procedure.

Here is your first card - Card Number 1. It is marked Use of Table Utensils. Remember - consider each person in turn - read the statements on the card - find the one which best describes the most difficult task they can usually manage. Record the number that goes with that statement opposite their name. Make sure your ratings go in Column 1. Work this card for each of the ten persons in turn - putting your ratings in Column 1.

Any questions?

Don't linger over your decisions - work steadily.

Here is Card 2. This was the Example Card. Notice that some items may deal with behaviors that are not possible for a person to perform because the opportunity does not exist, for example, ordering a complete meal in a restaurant.

In these instances you must still complete your rating. Give the person credit for the item if you feel absolutely certain that he or she would perform the behavior without additional training had he or she the opportunity to do so.

Any questions?

Right. Rate each of the ten persons in turn on Card 2. Don't linger over your decisions - work steadily.

Now look at Card 3. Remember consider each person in turn. Make sure you record your ratings in Column 3. Don't linger over your decisions - work steadily.

The second type of item in the scale asks you to check ALL statements which apply to the person.

Let us have a look at an example. Here is Card 4. On it you will see a list of statements which may or may not apply to the person you are rating. Each statement is identified by a letter which precedes it. For example, "Swallowsfood without chewing" is preceded by the letter (a). The next statement by letter (b) and so on.

Your job here is to ask, starting with the first person - "does this first statement apply or not?" If the answer is "Yes" you put the figure 1 opposite that person's name in Column 4a.

If the answer is "No" you put the figure zero opposite that person's name in Column 4a.

You then turn to the next person, and ask yourself "Does this same statement apply or not?" You record your rating of 1 or 0 opposite that person's name in Column 4a.

This process continues until all the ten people have been rated on the first statement. You then consider the next statement - rate all the persons on your sheet making certain that the ratings of 1 or zero go into the Column identified by the same letter as you see in front of the statements you are rating.

This process continues until all the persons have been rated on all the statements on that card.

Any questions?

Please observe the following general rules in completing this scale:

1) In items which specify "with help" or "with assistance" for completion of task, these mean with direct physical assistance.

2) Give the person credit for an item even if he or she needs verbal prompting or reminding to complete the task unless the item definitely states "without prompting" or "without reminder".

Card Number 5 is about Toilet Training. Remember to find the statement which describes the most difficult task they can usually manage, just as you did for the first three cards. Record your ratings for Card 5 in Column 5.

Don't linger over your decisions - work steadily.

Card Number 6 is about Self-Care at Toilet. Remember to put your ratings of 1 or 0 in the column identified by the letter in front of each statement.

Don't linger over your decisions - work steadily.

APPENDIX C

ADAPTIVE BEHAVIOR SCALE: PART II

INSTRUCTIONS:

Part II of the scale contains only one kind of item. Here is an example. Card 2 has to do with whether a person Damages Personal Property or not. On it you will see a list of statements which may or may not apply to the person you are rating.

Each statement is identified by a letter which precedes it. For example, rips, tears or chews own clothing is preceded by the letter (a). The next statement by letter (b) and so on.

Your job here is to ask yourself, starting with the first person on your sheet, and with the first statement on your card - "Does this statement apply or not?"

If the answer is "No" you rate this by putting zero opposite their name in Column 2a.

If the statement is true you then have to decide whether the behavior occurs occasionally or frequently.

"Occasionally" signifies that the behavior occurs once in a while or now and then. "Frequently" signifies that the behavior occurs quite often or habitually.

If you judge that the behavior occurs occasionally you put the figure 1 opposite the first person's name in Column 2a.

If you judge that the behavior occurs frequently then you put the figure 2 opposite the first person's name in Column 2a.

When you have rated the first person on your list on the first statement, you go on to the next person and ask yourself - "Does this first statement apply"?

In this way all the ten persons on your list are rated on the first statement. When you have recorded your ratings you then repeat the process for the second statement on Card 2 - statement (b). These ratings go into the Column headed 2b.

Any questions?

Remember "Occasionally" signifies that the behavior occurs once in a while, or now and then. "Frequently" signifies that the behavior occurs quite often or habitually.

Remember rate all persons on your list on the first statement - then move on to the next statement. Repeat the process until all the persons have been rated on all the statements.

Make sure you put your ratings in the correct column.

Here is Card 1.

Don't linger over your decisions - work steadily.

APPENDIX D

ADAPTIVE BEHAVIOR SCALE PART I ITEM RELIABILITIES

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 1 USE OF TABLE UTENSILS							
	.662		1.000		.885		.665
15	.753	7	.759	1	.536	4	.652
	.674		-.084		.083		.549
16	.711	GH	-.236	6	.590	4A	.497
	.300		.808		.375		.723
8A	.571	5	.691	12	.661	11	.706
	(18)*		(12)		(16)		(18)
ITEM 2 EATING IN PUBLIC							
	.886		.395		.366		1.000
15	.739	7	.751	1	-.025	4	1.000
	1.000		.345		-.373		.562
16	1.000	GH	.344	6	.645	4A	.629
	.397		.951		.320		.328
8A	.867	5	.770	12	.276	11	.525
	(18)		(18)		(14)		(16)
ITEM 3 DRINKING							
	.930		1.000		.333		.762
15	.618	7	.497	1	.510	4	.720
	.623		1.000		1.000		.288
16	.696	GH	1.000	6	.579	4A	.000
	.415		.467		1.000		.830
8A	.544	5	.271	12	.579	11	-.002
	(18)		(12)		(16)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 4 TABLE MANNERS							
	.749		.554		.762		.673
15	.613	7	.489	1	.612	4	.593
	.464		-.024		.528		.228
16	.615	GH	.446	6	.721	4A	.472
	.506		.507		.377		.416
8A	.511	5	.870	12	.471	11	.669
	(18)*		(16)		(18)		(18)
ITEM 5 TOILET TRAINING							
	.656		1.000		.681		.377
15	.733	7	.185	1	.288	4	.851
	.451		.301		1.000		1.000
16	.266	GH	.003	6	.510	4A	.482
	.452		.282		1.000		.908
8A	.406	5	.399	12	.664	11	.560
	(18)		(14)		(18)		(16)
ITEM 6 SELF-CARE AT TOILET							
	.819		.122		.667		.767
15	.481	7	.522	1	.793	4	.937
	.853		.048		.609		.167
16	.417	GH	1.000	6	.758	4A	.863
	1.000		.778		1.000		.386
8A	.189	5	.637	12	.735	11	.765
	(16)		(14)		(12)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 7 WASHING HANDS AND FACE							
	.235		1.000		.667		.949
15	.282	7	.280	1	.676	4	.672
	.650		1.000		.813		1.000
16	.643	GH	1.000	6	.604	4A	1.000
	1.000		.896		1.000		-.163
8A	1.000	5	-.093	12	.465	11	.829
	(16)*		(12)		(14)		(14)
ITEM 8 BATHING							
	.767		.441		.158		.868
15	.644	7	.851	1	.350	4	.775
	.751		.732		.632		.739
16	.416	GH	.270	6	.650	4A	.809
	.328		.903		.795		.819
8A	.804	5	.687	12	.277	11	.770
	(18)		(16)		(18)		(18)
ITEM 9 PERSONAL HYGIENE							
	-.169		.403		-.210		-.021
15	.265	7	-.154	1	.024	4	.287
	.286		.147		.540		.643
16	.308	GH	.267	6	.156	4A	.285
	-.273		.752		.634		.000
8A	.539	5	.280	12	.494	11	.338
	(16)		(18)		(18)		(15)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 10 TOOTH BRUSHING							
	.700		.539		.084		.422
15	.431	7	.410	1	.210	4	.324
	.539		.307		.117		.616
16	.513	GH	.336	6	.461	4A	.617
	.583		.672		.355		.863
8A	.391	5	.484	12	.439	11	.126
	(16)*		(14)		(16)		(16)
ITEM 11 MENSTRUATION							
	1.000		1.000		.049		-.115
15	.974	7	1.000	1	.089	4	.412
	.811		.598		1.000		.266
16	1.000	GH	-.119	6	1.000	4A	.759
	1.000		.472		1.000		1.000
8A	1.000	5	.613	12	1.000	11	1.000
	(18)		(18)		(18)		(18)
ITEM 12 POSTURE							
	.766		.154		.260		.560
15	.441	7	.128	1	.297	4	.462
	.380		.126		.665		.442
16	.764	GH	.423	6	.345	4A	.255
	.869		.497		.519		.436
8A	.697	5	.157	12	.168	11	.669
	(18)		(18)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 13 CLOTHING							
	-.189		.444		.069		.525
15	.438	7	.146	1	.477	4	.111
	1.000		-.579		.442		.015
16	1.000	GH	.357	6	.308	4A	.771
	-.056		.560		.142		-.411
8A	.244	5	.559	12	.347	11	.678
	(18)*		(18)		(18)		(16)
ITEM 14 CARE OF CLOTHING							
	.695		.753		.600		.554
15	.432	7	.640	1	.634	4	.312
	1.000		.354		.646		.778
16	1.000	GH	.577	6	.589	4A	.380
	.440		.772		.472		.651
8A	.439	5	.649	12	.443	11	.789
	(16)		(18)		(18)		(16)
ITEM 15 DRESSING							
	.794		1.000		1.000		.681
15	.597	7	.942	1	.687	4	.870
	.909		-.248		.813		.756
16	.368	GH	1.000	6	.604	4A	.320
	.932		.881		1.000		.739
8A	.662	5	.732	12	.798	11	.684
	(14)		(16)		(12)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 16 UNDRESSING AT APPROPRIATE TIMES							
	.746		1.000		1.000		.165
15	-.127	7	.897	1	.641	4	.940
	.765		1.000		1.000		.310
16	.214	GH	1.000	6	.678	4A	.008
	.904		.747		1.000		1.000
8A	.288	5	.451	12	.163	11	.618
	(14)*		(10)		(12)		(16)
ITEM 17 SHOES							
	.739		1.000		1.000		.702
15	.437	7	.876	1	.682	4	.830
	.710		1.000		1.000		.523
16	.106	GH	1.000	6	.809	4A	.624
	.753		.564		1.000		.752
8A	.645	5	.785	12	.652	11	.659
	(18)		(16)		(14)		(18)
ITEM 18 SENSE OF DIRECTION							
	.612		1.000		.467		.579
15	.426	7	.567	1	.536	4	.567
	.609		1.000		-.196		.218
16	1.000	GH	.274	6	.582	4A	1.000
	.742		.839		.608		1.000
8A	-.179	5	.510	12	.184	11	.605
	(12)		(16)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 19 PUBLIC TRANSPORTATION							
	.558		.693		.562		1.000
15	.653	7	.746	1	1.000	4	1.000
	1.000		.563		.345		1.000
16	1.000	GH	.412	6	.664	4A	1.000
	.884		.874		.735		1.000
8A	.855	5	.879	12	1.000	11	1.000
	(18)*		(18)		(18)		(18)
ITEM 20 TELEPHONE							
	.553		.465		1.000		1.000
15	.555	7	.730	1	1.000	4	1.000
	1.000		.705		.447		.946
16	1.000	GH	.418	6	.751	4A	.780
	.861		.796		.416		1.000
8A	.889	5	.921	12	1.000	11	.595
	(18)		(18)		(14)		(16)
ITEM 21 MISCELLANEOUS INDEPENDENT FUNCTIONING							
	.714		.336		.416		.793
15	.495	7	.782	1	.494	4	.827
	.556		.743		.073		.427
16	.127	GH	.655	6	.704	4A	.299
	.920		.799		.723		.444
8A	.838	5	.654	12	.634	11	.715
	(18)		(18)		(18)		(18)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 22 VISION							
	1.000		.126		.491		1.000
15	.664	7	.120	1	.542	4	1.000
	.778		1.000		.816		.250
16	.964	GH	.590	6	.893	4A	1.000
	1.000		.778		-.111		1.000
8A	.754	5	.614	12	.516	11	.964
	(14)*		(14)		(14)		(10)
ITEM 23 HEARING							
	.000		1.000		1.000		1.000
15	.059	7	-.042	1	.287	4	1.000
	1.000		1.000		.667		.764
16	1.000	GH	.854	6	.800	4A	1.000
	1.000		.569		.923		1.000
8A	.546	5	.460	12	.613	11	.936
	(7)		(14)		(16)		(14)
ITEM 24 BODY BALANCE							
	.447		.272		.394		.435
15	.261	7	.372	1	.079	4	.329
	.429		.595		.187		1.000
16	.403	GH	.614	6	.332	4A	.469
	.765		.770		.667		.588
8A	.494	5	.619	12	.381	11	.537
	(16)		(16)		(16)		(12)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 25 WALKING AND RUNNING							
	.278		1.000		.595		.205
15	.601	7	.697	1	.482	4	.637
	.758		-.111		-.167		-.034
16	.693	GH	.750	6	.543	4A	.514
	1.000		.315		.778		.461
8A	.804	5	.403	12	.273	11	-.055
	(14)*		(14)		(16)		(16)
ITEM 26 CONTROL OF HANDS							
	.805		1.000		.397		.349
15	.365	7	.844	1	.396	4	.628
	.758		1.000		.667		.327
16	.713	GH	.272	6	.502	4A	.479
	.622		.709		-.182		.875
8A	.717	5	.573	12	.310	11	.495
	(18)		(12)		(16)		(16)
ITEM 27 LIMB FUNCTION							
	1.000		1.000		1.000		1.000
15	1.000	7	1.000	1	.531	4	1.000
	1.000		1.000		1.000		1.000
16	.896	GH	1.000	6	.743	4A	1.000
	1.000		1.000		1.000		1.000
8A	1.000	5	1.000	12	1.000	11	1.000
	(18)		(10)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 28 MONEY HANDLING							
	.264		.121		.513		.803
15	.113	7	.766	1	.156	4	1.000
	1.000		.515		.764		1.000
16	1.000	GH	.103	6	.512	4A	1.000
	-.118		.799		.340		.073
8A	.611	5	.588	12	.532	11	.556
	(16)*		(18)		(16)		(14)
ITEM 29 BUDGETING							
	.413		.495		.582		1.000
15	.546	7	.846	1	.447	4	1.000
	1.000		.705		.043		.972
16	1.000	GH	.579	6	.706	4A	1.000
	.742		.923		.402		.873
8A	.711	5	.754	12	.333	11	1.000
	(18)		(16)		(18)		(18)
ITEM 30 ERRANDS							
	.724		.326		.355		1.000
15	.630	7	.699	1	.285	4	1.000
	1.000		.612		-.218		.745
16	1.000	GH	.435	6	.654	4A	.753
	.727		.782		.673		.567
8A	.857	5	.662	12	.557	11	.858
	(16)		(18)		(16)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 31 PURCHASING							
	.763		.818		.423		.764
15	.556	7	.776	1	.305	4	1.000
	1.000		.333		.083		.782
16	1.000	GH	.364	6	.739	4A	1.000
	.864		.856		.673		.545
8A	.026	5	.474	12	.518	11	.004
	(16)*		(18)		(18)		(14)
ITEM 32 WRITING							
	.824		.336		.601		1.000
15	.568	7	.672	1	.227	4	1.000
	1.000		.485		.527		1.000
16	1.000	GH	.295	6	.642	4A	1.000
	.902		.798		.728		.483
8A	.728	5	.777	12	.678	11	1.000
	(18)		(18)		(18)		(16)
ITEM 33 PREVERBAL EXPRESSION							
	1.000		1.000		1.000		.719
15	1.000	7	1.000	1	.982	4	.421
	.857		1.000		1.000		1.000
16	.799	GH	1.000	6	.918	4A	.591
	1.000		1.000		1.000		1.000
8A	1.000	5	.390	12	1.000	11	.871
	(18)		(16)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 34 ARTICULATION							
	-.178		.632		.188		.857
15	.463	7	.402	1	.293	4	.474
	.778		.267		.251		.534
16	.950	GH	.665	6	.435	4A	.704
	.708		.811		.703		.394
8A	.741	5	.800	12	.513	11	.549
	(18)*		(18)		(18)		(18)
ITEM 35 SENTENCES							
	.840		.517		.124		.639
15	.466	7	.542	1	.484	4	1.000
	1.000		.527		.553		.619
16	1.000	GH	.231	6	.614	4A	.846
	.392		.776		.167		.542
8A	.484	5	.749	12	.690	11	.815
	(18)		(16)		(16)		(18)
ITEM 36 WORD USAGE							
	.768		.239		.356		.854
15	.747	7	.509	1	.443	4	1.000
	1.000		.548		.258		.785
16	.783	GH	.079	6	.700	4A	.795
	.671		.733		.176		.783
8A	.729	5	.624	12	.712	11	.802
	(18)		(18)		(18)		(14)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
			ITEM 37 READING				
	.845		.231		.418		1.000
15	.281	7	.644	1	.102	4	1.000
	1.000		.643		.193		.320
16	1.000	GH	.469	6	.699	4A	1.000
	.879		.824		.503		1.000
8A	.736	5	.740	12	.619	11	.564
	(16)*		(18)		(18)		(16)
			ITEM 38 COMPLEX INSTRUCTIONS				
	.880		-.318		.384		.328
15	.308	7	.818	1	.402	4	.585
	.466		1.000		.147		.807
16	.816	GH	.504	6	.618	4A	.598
	.512		.921		-.139		.976
8A	.447	5	.757	12	.607	11	.737
	(14)		(14)		(16)		(14)
			ITEM 39 CONVERSATION				
	.930		-.373		.330		.812
15	.765	7	.424	1	.597	4	1.000
	1.000		.563		.507		.896
16	1.000	GH	.282	6	.430	4A	.881
	.060		.846		.794		.565
8A	.524	5	.650	12	.583	11	.712
	(14)		(16)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 40 MISCELLANEOUS LANGUAGE DEVELOPMENT							
	.499		.505		-.344		.728
15	.447	7	.565	1	.526	4	.120
	.937		.744		.572		.646
16	.679	GH	.614	6	.648	4A	.829
	.820		.740		.334		.654
8A	.692	5	.669	12	.530	11	.656
	(18)*		(18)		(18)		(15)
ITEM 41 NUMBERS							
	.839		.340		.369		.540
15	.193	7	.349	1	.311	4	1.000
	1.000		.157		.533		.574
16	1.000	GH	.505	6	.605	4A	.631
	.863		.806		.475		.818
8A	.729	5	.693	12	.549	11	.896
	(16)		(18)		(18)		(18)
ITEM 42 TIME							
	.794		.475		.539		1.000
15	.694	7	.639	1	.297	4	1.000
	1.000		.464		.515		.770
16	1.000	GH	.455	6	.618	4A	1.000
	.666		.703		.637		.778
8A	.739	5	.580	12	.608	11	.949
	(18)		(18)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 43 TIME CONCEPT							
	.834		1.000		.567		1.000
15	.494	7	.715	1	.202	4	1.000
	1.000		1.000		-.250		.817
16	1.000	GH	1.000	6	.710	4A	.606
	.667		.677		1.000		.791
8A	.423	5	.582	12	.694	11	.864
	(16)*		(14)		(14)		(16)
ITEM 44 ROOM CLEANING							
	.460		.423		.509		1.000
15	.408	7	.548	1	.129	4	1.000
	.667		.408		.512		.454
16	1.000	GH	.360	6	.540	4A	.555
	.655		.928		.477		.572
8A	.191	5	.597	12	.429	11	.528
	(14)		(16)		(18)		(18)
ITEM 45 LAUNDRY							
	.764		.552		.544		1.000
15	.529	7	.644	1	.406	4	1.000
	.364		-.169		.388		.547
16	1.000	GH	.286	6	.518	4A	.707
	.364		.786		.922		.538
8A	.794	5	.629	12	.385	11	.727
	(16)		(18)		(16)		(14)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 46 TABLE SETTING							
	.826		.000		.687		.411
15	.463	7	.460	1	.357	4	1.000
	1.000		.673		.514		.831
16	1.000	GH	.300	6	.485	4A	.772
	.745		.802		.348		.780
8A	.380	5	.743	12	.458	11	.527
	(16)*		(15)		(18)		(18)
ITEM 47 FOOD PREPARATION							
	.554		.671		.500		-.272
15	.736	7	.450	1	1.000	4	1.000
	1.000		.112		-.408		-.167
16	1.000	GH	.516	6	.525	4A	.516
	.686		.829		.118		.544
8A	.627	5	.840	12	.037	11	.537
	(18)		(18)		(12)		(12)
ITEM 48 TABLE CLEARING							
	.726		1.000		.272		.868
15	.286	7	.602	1	.362	4	1.000
	.767		1.000		.509		.439
16	1.000	GH	1.000	6	.561	4A	.694
	.333		.802		.279		.624
8A	.656	5	.613	12	.157	11	.776
	(14)		(14)		(12)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 49 GENERAL DOMESTIC ACTIVITY							
	.883		.524		.527		.524
15	.532	7	.638	1	.463	4	1.000
	.509		1.000		.706		.922
16	1.000	GH	.284	6	.677	4A	.741
	.580		.854		.664		.782
8A	.606	5	.854	12	.481	11	.425
	(14)*		(18)		(18)		(18)
ITEM 50 JOB COMPLEXITY							
	.576		.333		1.000		1.000
15	1.000	7	.197	1	.656	4	1.000
	1.000		1.000		1.000		.667
16	1.000	GH	1.000	6	.676	4A	1.000
	.402		.581		1.000		1.000
8A	.339	5	.595	12	.552	11	.858
	(18)		(14)		(14)		(16)
ITEM 51 JOB PERFORMANCE							
	.972		.128		.084		1.000
15	1.000	7	-.204	1	.339	4	1.000
	1.000		.000		.243		-.146
16	1.000	GH	.122	6	.633	4A	.879
	1.000		.622		.140		.696
8A	.749	5	.562	12	.675	11	.664
	(18)		(13)		(18)		(18)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 52 WORK HABITS							
	.979		.301		.776		1.000
15	1.000	7	.544	1	.363	4	1.000
	1.000		-.186		.436		.016
16	1.000	GH	.746	6	.578	4A	1.000
	.131		.516		.731		.859
8A	.642	5	.578	12	.726	11	.927
	(16)*		(16)		(16)		(18)
ITEM 53 INITIATIVE							
	.584		.231		-.020		.522
15	.652	7	.270	1	.129	4	.952
	.619		.116		.167		.389
16	.674	GH	-.170	6	.438	4A	.259
	.565		.861		.454		.160
8A	.453	5	.644	12	.431	11	.630
	(16)		(16)		(18)		(16)
ITEM 54 PASSIVITY							
	.127		.405		.382		.713
15	.408	7	.015	1	.233	4	.034
	.038		-.053		.313		.286
16	.537	GH	.372	6	.571	4A	.408
	-.021		.173		-.137		.093
8A	.638	5	.486	12	.512	11	.383
	(18)		(18)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
			ITEM 55 ATTENTION				
	.825		1.000		.602		.502
15	.503	7	.591	1	.108	4	.902
	.148		.000		.298		.628
16	.248	GH	.412	6	.533	4A	.488
	.490		.717		.547		.532
8A	.515	5	.512	12	.376	11	.506
	(18)*		(14)		(16)		(18)
			ITEM 56 PERSISTENCE				
	.528		.217		.245		.025
15	.611	7	.443	1	.147	4	.008
	.388		.059		-.026		.708
16	.378	GH	.374	6	.639	4A	.065
	.616		.500		.493		.627
8A	.267	5	.389	12	.430	11	.237
	(18)		(18)		(18)		(18)
			ITEM 57 LEISURE TIME ACTIVITY				
	.575		.245		1.000		.684
15	.258	7	.524	1	.413	4	1.000
	1.000		.627		.381		.743
16	1.000	GH	.570	6	.219	4A	.427
	.688		.832		.654		.494
8A	.605	5	.722	12	.441	11	.473
	(16)		(18)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 58 PERSONAL BELONGINGS							
	.854		.534		.551		.630
15	.555	7	.618	1	.442	4	.558
	1.000		.431		.270		.540
16	1.000	GH	.609	6	.683	4A	.705
	.566		.786		.526		.669
8A	.624	5	.644	12	.606	11	.675
	(18)*		(18)		(18)		(18)
ITEM 59 GENERAL RESPONSIBILITY							
	.765		-.079		.475		.565
15	.401	7	.513	1	.130	4	1.000
	1.000		.225		.228		.813
16	1.000	GH	.484	6	.621	4A	.889
	.436		.930		.633		.852
8A	.521	5	.704	12	.510	11	.882
	(18)		(16)		(18)		(18)
ITEM 60 COOPERATION							
	.775		.426		-.062		.723
15	.466	7	.316	1	.545	4	1.000
	.569		.546		.657		.747
16	1.000	GH	.213	6	.651	4A	.723
	.100		.815		.175		.557
8A	.580	5	.679	12	.305	11	.637
	(18)		(18)		(16)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 61 CONSIDERATION FOR OTHERS							
	.740		-.096		.175		.573
15	.648	7	.423	1	.408	4	1.000
	1.000		.675		.708		.772
16	1.000	GH	.063	6	.689	4A	.766
	.456		.599		.587		.437
8A	.440	5	.543	12	.271	11	.945
	(16)*		(18)		(18)		(18)
ITEM 62 AWARENESS OF OTHERS							
	.880		.333		.000		.615
15	.550	7	.604	1	.312	4	.667
	.717		1.000		1.000		.648
16	.692	GH	.327	6	.475	4A	.491
	.808		.653		-.111		.454
8A	.784	5	.555	12	.398	11	.568
	(18)		(14)		(14)		(16)
ITEM 63 INTERACTION WITH OTHERS							
	.607		.376		.001		.821
15	.634	7	.248	1	.385	4	.570
	.693		.645		.808		.234
16	.233	GH	.461	6	.492	4A	.639
	.161		.817		.712		.404
8A	.529	5	.658	12	.307	11	.757
	(18)		(16)		(18)		(16)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS I							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 64 PARTICIPATION IN GROUP ACTIVITIES							
	.635		.446		.839		.694
15	.713	7	.621	1	.189	4	1.000
	.791		.408		.838		.286
16	.426	GH	.264	6	.462	4A	.528
	.573		.723		.767		.156
8A	.548	5	.528	12	.569	11	.346
	(16)*		(18)		(18)		(15)
ITEM 65 SELFISHNESS							
	.704		.099		.240		-.057
15	.212	7	.393	1	.051	4	.728
	.498		.352		.329		.627
16	.874	GH	.404	6	.366	4A	.315
	.395		-.045		.594		.727
8A	-.050	5	.334	12	.544	11	-.041
	(16)		(18)		(18)		(18)
ITEM 66 SOCIAL MATURITY							
	.291		.303		.531		.837
15	.335	7	.062	1	.384	4	.581
	.743		.660		.430		.627
16	.880	GH	.377	6	.430	4A	.667
	.718		-.100		.081		.488
8A	.366	5	.457	12	.248	11	.348
	(16)		(18)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

APPENDIX E

ADAPTIVE BEHAVIOR SCALE PART II ITEM RELIABILITIES

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 1 THREATENS OR DOES PHYSICAL VIOLENCE							
	.688		.834		.588		.594
15	.571	7	.708	1	.496	4	.778
	.799		.080		.599		.682
16	.279	GH	.729	6	.721	4A	.749
	.864		.811		.175		.427
8A	.697	5	.644	12	.725	11	.747
	(18)*		(18)		(18)		(17)
ITEM 2 DAMAGES PERSONAL PROPERTY							
	.702		.821		1.000		.406
15	.664	7	.533	1	.475	4	.764
	.799		1.000		.506		.523
16	.214	GH	.533	6	.340	4A	.518
	.391		.763		.353		.657
8A	.649	5	.639	12	.689	11	.431
	(18)		(16)		(17)		(18)
ITEM 3 DAMAGES OTHERS' PROPERTY							
	.559		.669		1.000		.116
15	.372	7	.157	1	.157	4	.498
	.731		.565		1.000		.248
16	.302	GH	.727	6	.239	4A	.485
	.229		.565		.218		.424
8A	.327	5	.286	12	.621	11	.224
	(16)		(17)		(17)		(17)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 4 DAMAGES PUBLIC PROPERTY							
	.466		.808		1.000		.369
15	.642	7	.630	1	.217	4	.661
	.776		.417		.277		.896
16	.469	GH	.630	6	.576	4A	.341
	.452		.569		.271		1.000
8A	.687	5	.750	12	.787	11	.532
	(18)*		(17)		(17)		(17)
ITEM 5 HAS VIOLENT TEMPER, OR TEMPER TANTRUMS							
	.800		.584		.605		.736
15	.371	7	.583	1	.501	4	.593
	.634		-.155		.389		.888
16	.451	GH	.473	6	.576	4A	.112
	.251		.339		.271		.599
8A	.495	5	.447	12	.787	11	.488
	(18)		(16)		(18)		(18)
ITEM 6 TEASES OR GOSSIPS ABOUT OTHERS							
	.604		.755		.650		1.000
15	.280	7	.522	1	.319	4	.873
	.916		.832		.315		.897
16	.674	GH	.712	6	.725	4A	.754
	.848		.925		.462		.186
8A	.643	5	.734	12	.577	11	.797
	(16)		(18)		(18)		(17)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 7 BOSSES AND MANIPULATES OTHERS							
	.706		.923		.606		.644
15	.043	7	.361	1	.274	4	.806
	.665		.755		.760		.865
16	.783	GH	.744	6	.622	4A	.828
	.798		.902		.467		.356
8A	.885	5	.685	12	.562	11	.757
	(18)*		(18)		(18)		(18)
ITEM 8 DISRUPTS OTHERS' ACTIVITIES							
	.224		.803		.740		.563
15	.306	7	.359	1	.458	4	.478
	.886		.654		.406		.802
16	.622	GH	.439	6	.516	4A	.520
	.487		.472		.566		.304
8A	.288	5	.467	12	.588	11	.401
	(18)		(18)		(15)		(18)
ITEM 9 IS INCONSIDERATE OF OTHERS							
	.558		.807		.025		.545
15	.629	7	.309	1	.225	4	1.000
	.919		.479		.926		.907
16	.715	GH	.635	6	.483	4A	.889
	.425		.608		.688		.062
8A	.669	5	.287	12	.487	11	.358
	(16)		(18)		(17)		(17)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 10 SHOWS DISRESPECT FOR OTHERS' PROPERTY							
	-.005		.867		1.000		.423
15	.279	7	.592	1	.336	4	.758
	.561		.375		.697		.662
16	.360	GH	.728	6	.375	4A	.753
	.465		.927		.824		.281
8A	.866	5	.422	12	.403	11	.871
	(18)*		(16)		(17)		(15)
ITEM 11 USES ANGRY LANGUAGE							
	.727		.886		.525		.630
15	.519	7	.705	1	.568	4	1.000
	1.000		.093		.924		.788
16	1.000	GH	.689	6	.728	4A	.827
	.846		.857		.583		.466
8A	.745	5	.639	12	.831	11	.842
	(14)		(18)		(18)		(17)
ITEM 12 IGNORES REGULATIONS OR REGULAR ROUTINES							
	.520		.886		1.000		.278
15	.391	7	.705	1	.364	4	-.081
	.675		.098		.300		.810
16	.482	GH	.689	6	.590	4A	.573
	-.168		.857		.481		-.143
8A	.546	5	.639	12	.620	11	.635
	(18)		(17)		(18)		(17)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 13 RESISTS FOLLOWING INSTRUCTIONS, REQUESTS OR ORDERS							
	.308		.776		.684		-.043
15	.244	7	.504	1	.397	4	.488
	.792		.436		.736		.364
16	.128	GH	.415	6	.609	4A	.289
	.218		.387		.468		.110
8A	.451	5	.373	12	.444	11	.669
	(18)*		(17)		(18)		(18)
ITEM 14 HAS IMPUDENT OR REBELLIOUS ATTITUDE TOWARD AUTHORITY							
	.624		.943		1.000		.066
15	-.001	7	.697	1	.407	4	.716
	.131		.335		.926		.696
16	1.000	GH	.451	6	.441	4A	.815
	.293		.740		.272		.444
8A	.402	5	.602	12	.570	11	.490
	(18)		(16)		(18)		(13)
ITEM 15 IS ABSENT FROM OR LATE FOR THE PROPER ASSIGNMENTS OR PLACES							
	.729		.855		.936		.029
15	.378	7	.631	1	.427	4	1.000
	1.000		.728		.384		.481
16	1.000	GH	.687	6	.304	4A	.662
	.816		.912		.694		.318
8A	.524	5	.770	12	.682	11	.619
	(14)		(18)		(18)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 16 RUNS AWAY OR ATTEMPTS TO RUN AWAY							
	.928		1.000		1.000		.803
15	.868	7	.347	1	1.000	4	1.000
	.774		1.000		1.000		1.000
16	.952	GH	1.000	6	.120	4A	1.000
	.422		.886		.907		1.000
8A	.342	5	.690	12	.716	11	.687
	(16)*		(15)		(16)		(15)
ITEM 17 MISBEHAVES IN GROUP SETTINGS							
	.685		.663		.228		.477
15	.607	7	.513	1	.242	4	.499
	.386		.491		.258		.520
16	.080	GH	.684	6	.503	4A	.607
	.620		.584		.429		.043
8A	.528	5	.645	12	.665	11	.316
	(16)		(18)		(18)		(18)
ITEM 18 TAKES OTHERS' PROPERTY WITHOUT PERMISSION							
	.692		.642		1.000		.836
15	.373	7	.694	1	.481	4	.783
	.739		.906		.692		.780
16	.884	GH	.716	6	.560	4A	.930
	.643		.956		.694		.746
8A	.813	5	.797	12	.434	11	.548
	(18)		(18)		(18)		(15)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 19 LIES OR CHEATS							
	.763		.713		.820		1.000
15	.456	7	.826	1	.423	4	1.000
	1.000		.605		.414		.806
16	1.000	GH	.580	6	.664	4A	.928
	.596		.681		.640		.678
8A	.592	5	.750	12	.687	11	.805
	(16)*		(18)		(18)		(17)
ITEM 20 IS INACTIVE							
	1.000		-.062		.354		.767
15	.418	7	.553	1	.286	4	.677
	.783		.427		.890		.384
16	.761	GH	.524	6	.421	4A	.565
	.667		.507		.546		.455
8A	.784	5	.772	12	.609	11	.525
	(14)		(18)		(18)		(18)
ITEM 21 IS WITHDRAWN							
	.773		.301		.354		.783
15	.778	7	.582	1	.072	4	.861
	.579		-.111		.206		.646
16	.657	GH	.394	6	.507	4A	.516
	1.000		.544		-.167		.670
8A	.504	5	.394	12	.517	11	.218
	(13)		(18)		(18)		(15)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 22 IS SHY							
	.236		.440		.325		.816
15	.846	7	.354	1	.213	4	-.003
	.683		.698		.823		.092
16	.315	GH	.557	6	.447	4A	.704
	.607		-.214		.422		.850
8A	.686	5	.598	12	.551	11	.324
	(18)*		(18)		(18)		(17)
ITEM 23 HAS STEREOTYPED BEHAVIOURS							
	.719		.304		.334		.486
15	.670	7	.583	1	.526	4	.373
	.261		1.000		.833		.397
16	.038	GH	.411	6	.758	4A	.543
	1.000		.969		.611		.873
8A	.556	5	.523	12	.294	11	.646
	(16)		(16)		(16)		(18)
ITEM 24 HAS PECULIAR POSTURE OR ODD MANNERISMS							
	-.016		1.000		1.000		.607
15	.253	7	.485	1	.603	4	.276
	-.030		1.000		.391		.417
16	.429	GH	.176	6	.801	4A	-.133
	1.000		1.000		1.000		.625
8A	.500	5	.140	12	.285	11	.515
	(18)		(16)		(15)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 25 HAS INAPPROPRIATE INTERPERSONAL MANNERS							
	.491		.000		.399		.265
15	.366	7	.296	1	.115	4	.516
	.558		-.204		.520		.654
16	.815	GH	.691	6	.427	4A	.844
	-.203		.753		.783		.336
8A	.225	5	.329	12	.452	11	.348
	(18)*		(16)		(18)		(18)
ITEM 26 HAS DISTURBING VOCAL OR SPEECH HABITS							
	.613		.183		.671		.440
15	.340	7	.536	1	.093	4	.263
	.528		.591		.623		.501
16	.267	GH	.299	6	.670	4A	.327
	.146		.531		.348		.542
8A	.653	5	.498	12	.374	11	.491
	(18)		(18)		(18)		(18)
ITEM 27 HAS STRANGE AND UNACCEPTABLE HABITS							
	.515		.053		.094		.792
15	.442	7	.564	1	.154	4	.477
	.544		.582		.385		.187
16	.551	GH	.088	6	.324	4A	.682
	.739		.866		.629		.585
8A	.146	5	.357	12	.327	11	.580
	(18)		(18)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 28 HAS UNACCEPTABLE ORAL HABITS							
	.727		.126		.307		.519
15	.775	7	.412	1	.422	4	.705
	.492		.647		1.000		.527
16	.758	GH	.199	6	.704	4A	.529
	.295		.641		.538		.456
8A	.529	5	.170	12	.507	11	.617
	(18)*		(18)		(16)		(18)
ITEM 29 REMOVES OR TEARS OFF OWN CLOTHING							
	.350		1.000		1.000		.505
15	.693	7	.593	1	.443	4	.672
	.629		1.000		1.000		.239
16	.237	GH	1.000	6	.703	4A	.988
	.667		.879		1.000		.845
8A	.545	5	.632	12	.833	11	.699
	(16)		(14)		(12)		(16)
ITEM 30 HAS OTHER ECCENTRIC HABITS AND TENDENCIES							
	.010		1.000		.112		.766
15	.450	7	.718	1	.071	4	.536
	.840		1.000		.319		.339
16	.396	GH	.147	6	.463	4A	.115
	1.000		.609		.764		.225
8A	.726	5	.263	12	.443	11	.447
	(16)		(16)		(14)		(16)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 31 DOES PHYSICAL VIOLENCE TO SELF							
	.768		-.167		.156		.667
15	.636	7	.368	1	.668	4	.915
	.747		1.000		1.000		.043
16	.549	GH	-.136	6	.595	4A	.582
	-.248		.572		1.000		.702
8A	.232	5	.501	12	.515	11	.578
	(16)*		(14)		(16)		(18)
ITEM 32 HAS HYPERACTIVE TENDENCIES							
	.909		.773		.716		.021
15	.454	7	.483	1	.761	4	.418
	.582		.531		.439		.487
16	.575	GH	.457	6	.669	4A	.614
	.600		.234		.660		.706
8A	.749	5	.601	12	.498	11	.618
	(16)		(18)		(18)		(18)
ITEM 33 ENGAGES IN INAPPROPRIATE MASTURBATION							
	.365		1.000		1.000		.534
15	.867	7	1.000	1	.693	4	1.000
	.083		1.000		1.000		1.000
16	.728	GH	1.000	6	.877	4A	.671
	1.000		.964		1.000		.875
8A	.238	5	.250	12	.457	11	.424
	(18)		(18)		(14)		(14)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 34 EXPOSES BODY IMPROPERLY							
	.335		1.000		1.000		.179
15	.549	7	-.052	1	.079	4	.871
	.656		1.000		1.000		.885
16	.322	GH	1.000	6	.416	4A	1.000
	1.000		.952		1.000		1.000
8A	.688	5	.393	12	.714	11	.047
	(16)*		(10)		(18)		(18)
ITEM 35 HAS HOMOSEXUAL TENDENCIES							
	.633		.991		1.000		.364
15	.714	7	.500	1	.329	4	1.000
	1.000		1.000		.828		.885
16	1.000	GH	.890	6	.743	4A	1.000
	.054		.704		.446		.587
8A	.459	5	.809	12	.473	11	.518
	(14)		(14)		(16)		(14)
ITEM 36 SEXUAL BEHAVIOUR THAT IS SOCIALLY UNACCEPTABLE							
	.865		.733		1.000		.358
15	.433	7	.200	1	.117	4	1.000
	1.000		.667		.688		.795
16	.000	GH	-.119	6	.744	4A	.843
	1.000		.918		.222		.375
8A	.144	5	.647	12	.365	11	.366
	(14)		(18)		(18)		(18)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
	CHILD/ADOL.		REHAB.		MEDIUM		LOW
ITEM 37 TENDS TO OVERESTIMATE OWN ABILITIES							
	.653		.459		.541		1.000
15	-.263	7	.278	1	-.023	4	1.000
	1.000		.949		-.097		.872
16	1.000	GH	.476	6	.152	4A	1.000
	.090		.509		-.246		.863
8A	.544	5	.504	12	.246	11	.282
	(18)*		(18)		(18)		(16)
ITEM 38 REACTS POORLY TO CRITICISM							
	.295		.721		.417		-.028
15	.501	7	.435	1	-.026	4	.527
	.440		.653		.271		.645
16	.439	GH	.519	6	.419	4A	-.069
	.592		.696		.641		.362
8A	.509	5	.317	12	.460	11	.312
	(18)		(18)		(18)		(18)
ITEM 39 REACTS POORLY TO FRUSTRATION							
	.741		.511		.419		.294
15	.465	7	.531	1	.593	4	.525
	.757		.246		.433		.777
16	.248	GH	.393	6	.647	4A	.489
	.276		.727		.434		.723
8A	.593	5	.560	12	.672	11	.621
	(18)		(16)		(18)		(18)
* TOTAL ITEM INTER-RATER CORRELATIONS							

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 40 DEMANDS EXCESSIVE ATTENTION OR PRAISE							
	.617		.488		.686		.658
15	.738	7	.329	1	.252	4	.496
	.675		.561		.209		.773
16	-.174	GH	.194	6	.299	4A	.624
	.318		.736		.483		.872
8A	.366	5	.539	12	.330	11	.304
	(16)*		(18)		(18)		(18)
ITEM 41 SEEMS TO FEEL PERSECUTED							
	.506		.648		.680		1.000
15	.038	7	.597	1	-.013	4	1.000
	.764		.844		.600		.807
16	1.000	GH	.695	6	.507	4A	1.000
	.185		.776		.452		.667
8A	.792	5	.650	12	.614	11	.884
	(14)		(18)		(18)		(14)
ITEM 42 HAS HYPOCHONDRIACAL TENDENCIES							
	.584		.590		.899		.132
15	-.038	7	.405	1	.501	4	1.000
	1.000		.604		1.000		.392
16	1.000	GH	.423	6	.507	4A	.499
	-.145		.449		1.000		.218
8A	.432	5	.534	12	.737	11	.904
	(14)		(18)		(14)		(16)

* TOTAL ITEM INTER-RATER CORRELATIONS

INTER-RATER RELIABILITY COEFFICIENTS ABS II							
CHILD/ADOL.		REHAB.		MEDIUM		LOW	
ITEM 43 HAS OTHER SIGNS OF EMOTIONAL INSTABILITIES							
	.253		.213		.352		.584
15	.856	7	.340	1	.101	4	.499
	.245		.289		-.074		.387
16	.458	GH	.500	6	.523	4A	.121
	-.008		.648		1.000		.552
8A	.796	5	.143	12	.439	11	.434
	(18)*		(18)		(18)		(18)
15		7		1		4	
16		GH		6		4A	
8A		5		12		11	
15		7		1		4	
16		GH		6		4A	
8A		5		12		11	

* TOTAL ITEM INTER-RATER CORRELATIONS

APPENDIX F

ADAPTIVE BEHAVIOR SCALE PART I DOMAIN SCORES

TABLE 1

DOMAIN 1 INDEPENDENT FUNCTIONING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	72.08	26.68	83.97	86.46	72.60	86.74	64.64	69.36	62.18	43.30	65.71	53.54
S.D.	16.52	10.34	12.87	15.71	18.78	7.54	17.30	11.88	16.42	14.00	12.25	17.75
MEDIAN	74.50	23.50	86.50	91.62	75.50	86.00	69.50	71.00	64.50	44.00	65.67	52.50
MODE	59.00	21.00	76.00	81.00	82.00	82.00	74.00	76.00	65.00	27.00	66.00	48.00
RANGE	36-100	11-51	58-101	34-103	36-102	70-100	18-90	36-87	16-88	23-65	39-86	19-78
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 2

DOMAIN 2 PHYSICAL DEVELOPMENT ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	22.21	17.45	22.53	22.51	20.97	21.03	21.80	21.77	18.84	19.22	20.71	20.54
S.D.	1.74	2.96	2.13	1.64	1.94	2.60	2.24	1.63	3.21	2.17	2.00	2.18
MEDIAN	22.75	16.33	23.20	22.96	21.06	21.37	22.57	21.71	18.83	19.00	20.67	21.00
MODE	23.00	16.00	24.00	23.00	21.00	24.00	23.00	21.00	21.00	18.00	20.00	21.00
RANGE	18-24	13-23	16-24	18-24	16-24	14-24	15-24	18-24	11-23	15-23	15-23	14-23
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 3

DOMAIN 3 ECONOMIC ACTIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	100.0	-	8.1	2.5	-	17.9	6.4	20.5	82.6	-	26.9
MEAN	6.00	0.00	8.47	11.84	6.40	9.23	4.59	6.81	2.91	0.39	4.43	2.50
S.D.	3.09	0.00	4.64	5.16	4.02	3.22	3.58	3.31	2.57	0.94	1.66	2.30
MEDIAN	5.83	0.00	8.50	13.14	5.10	8.87	5.00	6.23	2.50	0.10	4.08	2.25
MODE	9.00	0.00	2.00	16.00	4.00	7.00	0.00	6.00	1.00	0.00	3.00	2.00
RANGE	1-12	0-0	2-16	0-17	0-16	4-16	0-13	0-15	0-9	0-3	2-8	0-9
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 4

DOMAIN 4 LANGUAGE DEVELOPMENT ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	31.8	-	-	-	-	-	-	2.3	4.3	-	-
MEAN	21.75	3.64	27.60	31.59	23.25	29.06	19.36	22.34	19.02	7.48	18.33	13.27
S.D	6.26	4.21	7.34	6.38	7.17	4.72	7.79	6.54	6.89	5.48	5.89	7.28
MEDIAN	22.83	2.25	28.50	32.43	23.83	28.67	18.50	22.25	19.50	6.00	19.00	11.00
MODE	22.00	0.00	22.00	32.00	20.00	28.00	18.00	28.00	23.00	2.00	11.00	8.00
RANGE	3-33	0-12	14-38	12-41	8-38	17-36	3-37	8-38	0-35	0-18	7-26	1-27
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 5

DOMAIN 5 NUMBERS AND TIME ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	95.5	-	-	15.0	-	14.3	10.6	36.4	78.3	28.6	61.5
MEAN	5.58	0.09	8.10	9.97	4.92	8.71	4.61	5.25	2.52	0.30	2.76	1.77
S.D.	2.53	0.43	3.15	2.70	3.69	2.07	3.52	3.58	2.66	0.63	2.72	2.64
MEDIAN	6.00	0.05	7.50	11.08	4.83	9.00	4.30	4.67	2.17	0.14	1.75	0.31
MODE	6.00	0.00	12.00	12.00	0.00	9.00	0.00	,3.00	0.00	0.00	0.00	0.00
RANGE	1-11	0-2	3-12	2-12	0-12	4-12	0-11	0-12	0-11	0-2	0-7	0-8
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 6

DOMAIN 6 DOMESTIC ACTIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	4.2	90.9	-	2.7	15.0	-	32.1	2.1	25.0	65.2	4.8	46.2
MEAN	7.75	0.09	11.57	11.13	7.85	13.45	4.87	4.96	3.75	1.09	6.90	3.08
S.D.	5.31	0.29	4.34	4.49	5.89	2.46	4.84	3.87	4.08	1.68	4.36	4.50
MEDIAN	7.00	0.05	13.50	12.00	8.50	14.00	3.50	3.58	2.64	0.27	7.00	0.83
MODE	3.00	0.00	15.00	12.00	0.00	14.00	0.00	2.00	0.00	0.00	13.00	0.00
RANGE	0-16	0-1	4-17	0-18	0-18	8-17	0-15	0-14	0-14	0-5	0-14	0-14
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 7

DOMAIN 7 VOCATIONAL ACTIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	87.5	100.0	20.0	2.7	17.5	-	37.5	8.5	18.2	100.0	42.9	73.1
MEAN	0.92	0.00	6.80	8.03	7.17	8.97	5.50	7.77	7.09	0.00	5.00	2.08
S.D.	2.72	0.00	3.77	2.97	3.67	1.56	4.50	3.29	3.59	0.00	4.58	3.61
MEDIAN	0.07	0.00	8.62	9.42	8.64	9.59	7.75	9.60	8.50	0.00	6.75	0.18
MODE	0.00	0.00	9.00	10.00	10.00	10.00	0.00	10.00	10.00	0.00	0.00	0.00
RANGE	0-10	0-0	0-10	0-11	0-11	4-10	0-11	0-10	0-10	0-0	0-11	0-10
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 8

DOMAIN 8 SELF-DIRECTION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	-	-	-	-	-	3.6	-	-	-	-	26.9
MEAN	12.46	4.36	12.70	15.22	9.25	12.55	9.68	13.60	8.77	4.65	10.33	3.88
S.D.	5.03	1.87	4.75	3.82	5.12	2.86	5.07	3.51	3.31	2.81	3.90	3.65
MEDIAN	14.83	4.83	13.50	15.33	8.17	12.87	10.50	14.43	8.37	3.33	10.25	3.30
MODE	6.00	5.00	15.00	14.00	15.00	10.00	14.00	16.00	8.00	3.00	11.00	0.00
RANGE	5-19	1-7	5-19	4-20	1-20	7-18	0-17	2-19	3-16	1-10	4-18	0-12
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 9

DOMAIN 9 RESPONSIBILITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	12.5	100.0	-	8.1	25.0	-	16.1	6.4	20.5	69.6	9.5	65.4
MEAN	2.54	0.00	3.50	3.59	2.52	3.97	2.86	3.23	2.02	0.56	2.52	0.73
S.D.	1.59	0.00	1.31	1.67	1.88	1.17	1.83	1.48	1.44	0.99	1.50	1.18
MEDIAN	2.50	0.00	3.80	3.89	2.79	3.97	3.06	3.37	2.00	0.22	2.42	0.26
MODE	4.00	0.00	4.00	5.00	0.00	4.00	4.00	3.00	2.00	0.00	2.00	0.00
RANGE	0-5	0-0	1-5	0-6	0-6	1-6	0-6	0-6	0-5	0-3	0-5	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 10

DOMAIN 10 SOCIALIZATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	9.1	-	-	-	-	-	-	-	4.3	-	-
MEAN	17.92	5.18	18.83	20.22	14.90	18.52	14.79	16.02	12.64	8.70	15.81	11.11
S.D.	4.26	3.62	4.12	3.95	3.85	3.54	4.36	3.10	3.19	3.51	3.97	3.41
MEDIAN	18.00	4.00	19.00	21.20	14.50	18.33	14.36	16.40	12.50	8.08	16.00	10.17
MODE	18.00	3.00	13.00	23.00	14.00	15.00	14.00	17.00	13.00	8.00	18.00	15.00
RANGE	10-26	0-11	12-25	11-26	7-24	11-24	8-23	7-21	7-21	0-18	8-22	6-17
CASES	24	22	30	37	40	31	56	47	44	23	21	26

APPENDIX G

ADAPTIVE BEHAVIOR SCALE PART II DOMAIN SCORES

TABLE 1

DOMAIN 1 VIOLENT AND DESTRUCTIVE BEHAVIOUR ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	29.2		10.0	37.8	32.5	58.1	51.8	38.3	36.4	13.0	19.0	19.2
MEAN	7.62	6.41	5.67	2.97	4.90	1.64	2.12	3.74	3.57	8.30	7.09	5.96
S.D.	7.20	5.56	4.85	5.08	6.49	3.39	4.41	5.58	4.41	6.07	7.01	4.77
MEDIAN	5.50	4.30	4.17	1.06	2.50	0.36	0.47	1.80	2.00	7.67	4.25	6.67
MODE	0.00	4.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
RANGE	0-24	1-23	0-17	0-23	0-31	0-14	0-29	0-31	0-16	0-20	0-22	0-16
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 2

DOMAIN 2 ANTISOCIAL BEHAVIOUR ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO		45.5	10.0	21.6	15.0	22.6	44.6	25.5	29.5	26.1	23.8	3.8
MEAN	11.79	2.64	11.17	10.95	7.47	6.03	4.79	5.47	3.54	4.30	12.38	7.08
S.D.	8.75	3.95	11.12	12.37	9.15	7.64	6.93	6.13	4.51	4.67	14.81	6.30
MEDIAN	6.50	1.50	4.50	7.75	4.50	2.37	1.10	2.29	2.07	3.00	7.00	4.25
MODE	6.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
RANGE	1-27	0-17	0-41	0-47	0-47	0-33	0-21	0-22	0-19	0-16	0-41	0-25
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 3

DOMAIN 3 REBELLIOUS BEHAVIOUR ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	8.3		13.3	18.9	20.0	19.4	39.3	27.7	65.9	21.7	14.3	7.7
MEAN	7.00	7.50	6.93	9.86	10.07	4.77	4.87	6.74	0.84	5.22	7.38	7.38
S.D.	7.52	6.70	7.07	9.66	10.71	6.38	6.77	8.00	1.63	5.51	5.70	7.43
MEDIAN	4.83	5.75	4.90	7.75	6.83	2.42	1.36	3.00	0.26	3.37	8.00	3.36
MODE	1.00	1.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
RANGE	0-27	1-23	0-35	0-33	0-39	0-26	0-22	0-27	0- 6	0-22	0-20	0-23
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 4

DOMAIN 4 UNTRUSTWORTHY BEHAVIOUR ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	45.8	81.8	53.3	29.7	50.0	61.3	69.6	53.2	75.0	91.3	57.1	57.7
MEAN	2.67	0.50	2.57	4.62	3.35	1.84	1.27	1.72	0.82	0.09	2.76	1.58
S.D.	3.93	1.18	4.19	4.36	4.27	2.77	2.54	2.72	1.87	0.29	4.21	2.69
MEDIAN	0.83	0.11	0.44	4.58	0.50	0.32	0.22	0.44	0.17	0.05	0.37	0.37
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-17	0-4	0-16	0-15	0-16	0-9	0-11	0-10	0-8	0-1	0-15	0-11
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 5

DOMAIN 5 WITHDRAWAL ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	70.8	9.1	50.0	32.4	30.0	38.7	51.8	27.7	20.5	8.7	23.8	19.2
MEAN	1.00	8.59	1.53	3.27	2.37	1.84	2.30	2.81	1.82	5.56	3.95	6.00
S.D.	2.26	6.65	2.69	4.41	2.82	2.24	3.50	3.23	1.60	4.69	3.73	5.56
MEDIAN	0.21	7.50	0.50	1.75	1.39	1.08	0.47	1.87	1.43	4.75	3.25	4.00
MODE	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	2.00
RANGE	0-10	0-18	0-13	0-16	0-13	0-8	0-13	0-17	0-6	0-16	0-11	0-18
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 6

DOMAIN 6 STEREOTYPED BEHAVIOUR AND ODD MANNERISMS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	50.0	4.5	80.0	75.7	80.0	93.5	91.1	74.5	79.5	17.4	47.6	23.1
MEAN	1.67	6.82	0.53	1.05	0.52	0.06	0.29	0.43	0.61	2.87	1.43	4.11
S.D.	2.12	3.74	1.33	2.23	1.22	0.25	1.11	0.85	1.91	2.24	1.78	3.98
MEDIAN	0.50	6.17	0.12	0.16	0.12	0.03	0.05	0.17	0.13	2.40	0.75	3.00
MODE	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
RANGE	0-6	0-14	0-6	0-8	0-6	0-1	0-6	0-3	0-11	0-7	0-6	0-14
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 7

DOMAIN 7 INAPPROPRIATE INTERPERSONAL MANNERS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	45.8	54.5	80.0	83.8	85.0	87.1	60.7	68.1	59.1	65.2	57.1	42.3
MEAN	1.46	1.23	0.40	0.24	0.25	0.26	0.89	0.57	0.48	0.74	1.33	1.46
S.D.	2.24	1.77	1.16	0.64	0.74	0.77	1.50	1.06	0.66	1.10	2.20	1.55
MEDIAN	0.64	0.42	0.12	0.10	0.09	0.07	0.32	0.23	0.35	0.27	0.37	1.00
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-9	0-6	0-6	0-3	0-4	0-3	0-7	0-5	0-3	0-3	0-9	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 8

DOMAIN 8 UNACCEPTABLE VOCAL HABITS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	41.7	27.3	70.0	48.6	60.0	67.7	66.1	66.0	75.0	26.1	33.3	15.4
MEAN	1.58	1.36	1.23	1.57	0.62	0.39	0.96	0.72	0.45	1.70	2.38	3.50
S.D.	1.77	1.22	2.53	2.11	0.90	0.61	2.07	1.15	0.93	1.66	2.64	2.63
MEDIAN	1.00	1.21	0.21	0.58	0.33	0.24	0.26	0.26	0.17	1.19	1.37	3.00
MODE	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00
RANGE	0-5	0-4	0-10	0-7	0-3	0-2	0-10	0-4	0-4	0-5	0-8	0-8
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 9

DOMAIN 9 UNACCEPTABLE OR ECCENTRIC HABITS ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	37.5		53.3	43.2	57.5	71.0	39.3	38.3	43.2	8.7	19.0	23.1
MEAN	2.92	8.41	1.20	1.76	1.62	0.35	1.62	2.02	1.29	5.17	4.71	4.85
S.D.	3.94	5.44	1.75	3.09	3.63	0.66	1.86	3.15	1.69	3.65	4.53	4.42
MEDIAN	1.50	8.50	0.44	0.75	0.37	0.20	1.10	1.00	0.75	4.75	3.25	4.25
MODE	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
RANGE	0-14	1-22	0-6	0-13	0-18	0-3	0-7	0-16	0-8	0-13	0-14	0-18
CASES	24	22	30	37	40	31	56	47	44	23	21	26

DOMAIN 10 SELF-ABUSIVE BEHAVIOUR ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	62.5	31.8	76.7	75.7	77.5	100.0	85.7	89.4	88.6	21.7	42.9	23.1
MEAN	1.12	2.27	0.23	0.35	0.37	0.00	0.25	0.17	0.52	2.61	0.90	2.65
S.D.	1.75	2.80	0.43	0.72	0.92	0.00	0.69	0.52	1.72	2.50	0.99	2.64
MEDIAN	0.30	1.07	0.15	0.16	0.14	0.00	0.08	0.06	0.06	1.92	0.71	1.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
RANGE	0-5	0-10	0-1	0-3	0-5	0-0	0-3	0-2	0-9	0-7	0-3	0-9
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 10

TABLE 11

DOMAIN 11 HYPERACTIVE TENDENCIES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	54.2	27.3	60.0	45.9	75.0	61.3	71.4	66.0	84.1	43.5	42.9	26.9
MEAN	1.29	2.50	0.93	1.32	0.60	0.64	0.52	0.70	0.50	1.04	1.33	1.81
S.D.	2.03	2.13	1.51	1.89	1.24	0.91	1.04	1.16	1.37	1.26	1.83	1.60
MEDIAN	0.42	2.25	0.33	0.65	0.17	0.32	0.20	0.26	0.09	0.75	0.75	1.67
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-6	0-6	0-8	0-5	0-3	0-6	0-5	0-6	0-5	0-7	0-6
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 12

DOMAIN 12 SEXUALLY ABERRANT BEHAVIOUR ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	54.2	77.3	70.0	86.5	50.0	96.8	46.4	42.6	90.9	69.6	57.1	42.3
MEAN	1.71	1.23	0.47	0.57	1.45	0.06	3.54	2.08	0.20	0.56	1.14	2.77
S.D.	2.90	2.65	0.90	1.59	2.35	0.36	5.24	2.51	0.70	1.08	1.90	4.26
MEDIAN	0.42	0.15	0.21	0.08	0.50	0.03	0.79	1.37	0.05	0.22	0.37	0.90
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-11	0-9	0-4	0-6	0-11	0-2	0-19	0-10	0-3	0-4	0-6	0-15
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 13

DOMAIN 13 PSYCHOLOGICAL DISTURBANCES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	25.0	27.3	20.0	18.9	15.0	9.7	37.5	38.3	27.3	13.0	14.3	23.1
MEAN	4.75	3.00	6.40	9.68	10.37	8.77	3.39	3.85	2.93	3.87	6.71	6.11
S.D.	5.10	3.25	6.75	8.95	9.67	8.14	4.73	4.12	3.78	3.12	7.02	6.88
MEDIAN	3.00	1.50	4.83	8.25	6.83	6.75	1.20	3.12	2.00	3.00	4.75	5.75
MODE	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	1.00	0.00	0.00
RANGE	0-12	0-10	0-28	0-35	0-34	0-32	0-18	0-16	0-20	0-10	0-23	0-32
CASES	24	22	30	37	40	31	56	47	44	23	21	26

APPENDIX H

ADAPTIVE BEHAVIOR SCALE PART I SUBDOMAIN SCORES

TABLE 1

SUBDOMAIN 1 EATING (ITEM 1-4) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	4.5	-	-	-	-	-	-	-	-	-	-
MEAN	14.21	7.95	17.03	16.59	16.55	18.03	13.77	14.30	14.32	10.09	14.62	10.42
S.D.	4.40	3.14	3.46	3.18	3.62	1.28	4.07	3.22	3.08	3.49	3.23	3.69
MEDIAN	16.00	7.36	18.72	17.58	17.79	18.11	15.07	14.67	14.93	9.37	15.33	9.83
MODE	17.00	7.00	19.00	19.00	19.00	18.00	16.00	14.00	16.00	9.00	16.00	9.00
RANGE	4-19	0-12	9-20	4-20	6-20	16-20	2-19	5-18	3-19	4-15	7-19	4-16
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 2

SUBDOMAIN 2 TOILET USE (ITEM 5-6) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	45.5	-	-	-	-	-	-	2.3	4.3	-	-
MEAN	8.58	1.73	9.77	9.65	8.55	9.42	8.61	9.38	8.07	5.22	9.05	7.11
S.D.	1.47	1.96	0.50	0.95	1.20	0.62	2.18	1.38	2.39	2.88	1.07	2.97
MEDIAN	8.90	1.00	9.87	9.88	8.78	9.46	9.37	9.81	8.50	5.00	9.25	8.00
MODE	10.00	0.00	10.00	10.00	9.00	10.00	10.00	10.00	8.00	5.00	10.00	10.00
RANGE	5-10	0-6	8-10	6-10	5-10	8-10	1-10	3-10	0-10	0-10	6-10	1-10
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 3

SUBDOMAIN 3 CLEANLINESS (ITEM 7-11) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	4.5	-	-	-	-	-	-	-	-	-	-
MEAN	18.96	7.82	18.97	18.46	14.75	19.61	14.54	16.49	13.16	7.52	15.38	12.58
S.D.	3.25	3.53	2.48	3.71	5.11	2.17	4.19	3.10	4.65	3.67	3.43	4.53
MEDIAN	19.67	7.07	19.25	18.75	15.50	20.00	15.50	17.25	13.50	6.00	15.67	13.50
MODE	20.00	7.00	20.00	22.00	13.00	21.00	16.00	19.00	12.00	5.00	13.00	12.00
RANGE	12-23	0-14	14-23	9-24	1-23	14-23	6-22	7-23	2-21	2-14	8-22	5-20
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 4

SUBDOMAIN 4 APPEARANCE (ITEM 12-13) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	4.5	-	-	-	-	-	-	-	-	-	-
MEAN	9.46	6.00	11.60	11.24	10.15	12.06	8.82	9.23	10.82	10.17	10.09	7.73
S.D.	1.89	2.07	1.22	2.11	2.97	2.35	1.95	1.68	2.38	1.43	2.51	2.20
MEDIAN	9.50	6.50	11.87	11.64	9.30	12.25	8.37	9.43	10.50	10.43	10.25	8.25
MODE	11.00	8.00	12.00	12.00	8.00	12.00	8.00	11.00	10.00	11.00	12.00	9.00
RANGE	6-12	0-8	8-14	7-15	5-15	7-16	4-12	6-12	5-15	7-13	5-15	3-11
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 5

SUBDOMAIN 5 CARE OF CLOTHING (ITEM 14) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	16.7	100.0	6.7	13.5	35.0	16.1	41.1	42.6	50.0	82.6	23.8	50.0
MEAN	2.50	0.00	2.70	2.68	1.95	2.35	1.55	1.53	1.11	0.17	1.90	1.27
S.D.	1.44	0.00	1.24	1.56	1.62	1.54	1.51	1.56	1.43	0.39	1.41	1.46
MEDIAN	2.70	0.00	2.87	3.53	2.21	2.60	1.21	1.37	0.50	0.10	2.00	0.50
MODE	4.00	0.00	4.00	4.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-0	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-1	0-4	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 6 DRESSING AND UNDRESSING (ITEM 15-17) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	27.3	-	-	-	-	-	-	6.8	-	-	-
MEAN	10.25	2.59	13.07	13.19	12.30	13.87	11.55	12.23	10.00	7.61	8.86	9.92
S.D.	2.79	2.58	1.57	2.57	2.64	0.50	3.42	2.16	4.53	3.82	2.85	3.53
MEDIAN	10.50	2.12	13.75	13.94	13.67	13.93	13.03	12.96	11.72	8.25	8.62	10.75
MODE	13.00	2.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	11.00	9.00	11.00
RANGE	4-14	0-9	9-14	3-14	5-14	12-14	2-14	6-14	0-14	2-14	5-14	3-14
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 6

TABLE 7.

SUBDOMAIN 7 TRAVEL (ITEM 18-19) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	68.2	-	-	-	-	1.8	-	20.5	8.7	-	3.8
MEAN	3.25	0.32	3.93	5.32	3.32	4.39	2.43	2.15	1.52	1.13	2.00	1.81
S.D.	1.39	0.48	1.91	2.01	2.14	1.14	1.28	0.91	1.21	0.55	0.00	0.63
MEDIAN	2.95	0.23	3.28	6.37	2.30	4.27	2.31	2.00	1.37	1.09	2.00	1.89
MODE	3.00	0.00	3.00	7.00	2.00	4.00	2.00	2.00	1.00	1.00	2.00	2.00
RANGE	2-7	0-1	1-7	1-7	1-7	2-7	0-6	1-6	0-4	0-2	2-2	0-3
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 8 OTHER INDEPENDENT FUNCTIONING (ITEM 20-21) ABS PART 1

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	8.3	81.8	-	-	-	-	1.8	-	2.3	34.8	-	-
MEAN	4.87	0.27	6.90	9.32	5.02	7.00	3.37	4.04	3.18	1.39	3.81	2.69
S.D.	3.35	0.63	3.99	3.99	2.98	2.99	1.42	1.35	1.32	1.34	1.33	1.16
MEDIAN	3.50	0.11	5.75	11.00	3.87	6.12	3.26	3.92	3.62	1.20	3.91	2.40
MODE	3.00	0.00	3.00	13.00	3.00	4.00	3.00	4.00	4.00	0.00	4.00	2.00
RANGE	0-12	0-2	2-13	1-13	1-13	3-12	0-7	2-10	0-7	0-4	1-6	1-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 9

SUBDOMAIN 9 SENSORY DEVELOPMENT (ITEM 22-23) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	5.75	5.73	5.83	5.49	5.60	5.68	5.52	5.81	5.34	5.91	5.76	5.77
S.D.	0.68	0.93	0.46	0.80	0.63	0.60	0.83	0.49	1.01	0.29	0.54	0.81
MEDIAN	5.90	5.90	5.92	5.76	5.76	5.83	5.78	5.91	5.65	5.95	5.88	5.87
MODE	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
RANGE	3-6	2-6	4-6	4-6	4-6	4-6	3-6	4-6	2-6	5-6	4-6	3-6
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 10 MOTOR DEVELOPMENT (ITEM 24-27) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	16.46	11.73	16.70	17.03	15.37	15.35	16.29	15.96	13.50	13.30	14.95	14.77
S.D.	1.72	2.80	1.91	1.38	1.98	2.40	2.02	1.52	2.88	2.18	1.91	1.66
MEDIAN	17.00	10.50	17.25	17.33	15.77	15.75	16.91	16.08	13.83	13.00	15.12	15.00
MODE	17.00	10.00	17.00	18.00	16.00	14.00	18.00	17.00	17.00	12.00	17.00	15.00
RANGE	12-18	8-17	11-18	12-18	11-18	8-18	9-18	13-18	6-17	9-17	10-17	11-17
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 10

TABLE 11

SUBDOMAIN 11 MONEY HANDLING/BUDGETING (ITEM 28-29) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	100.0	-	8.1	2.5	-	26.8	8.5	52.3	82.6	-	50.0
MEAN	2.12	0.00	3.60	5.57	2.22	3.32	1.55	2.08	0.59	0.17	1.33	0.73
S.D.	0.95	0.00	2.33	2.66	2.03	2.12	1.36	1.75	0.69	0.39	0.73	1.08
MEDIAN	2.06	0.00	3.50	6.55	1.33	2.75	1.37	1.39	0.46	0.10	1.12	0.50
MODE	2.00	0.00	1.00	7.00	1.00	2.00	0.00	1.00	0.00	0.00	1.00	0.00
RANGE	1-4	0-0	1-7	0-8	0-8	1-8	0-5	0-7	0-2	0-1	1-3	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 12

SUBDOMAIN 12 SHOPPING SKILLS (ITEM 30-31) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	4.2	100.0	-	8.1	2.5	-	28.6	6.4	20.5	87.0	-	26.9
MEAN	3.87	0.00	4.87	6.27	4.17	5.90	3.04	4.72	2.32	0.22	3.09	1.77
S.D.	2.29	0.00	2.50	2.62	2.15	1.40	2.45	1.79	1.94	0.60	1.09	1.42
MEDIAN	3.50	0.00	4.75	6.75	3.93	5.92	3.25	4.97	1.83	0.07	3.08	1.83
MODE	3.00	0.00	7.00	9.00	3.00	5.00	0.00	5.00	1.00	0.00	2.00	2.00
RANGE	0-8	0-0	1-9	0-9	0-9	3-8	0-8	0-8	0-7	0-2	1-5	0-5
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 13

SUBDOMAIN 13 EXPRESSION (ITEM 32-36) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	4.2	54.5	-	-	-	-	-	-	2.3	21.7	-	-
MEAN	13.58	2.54	16.10	17.70	14.27	16.71	12.18	14.15	12.82	5.52	11.05	9.50
S.D.	3.69	3.35	3.63	3.28	3.39	2.33	3.98	2.94	3.50	4.38	3.01	4.20
MEDIAN	14.50	0.42	16.50	18.22	14.00	16.92	12.32	14.20	13.33	4.00	11.60	8.36
MODE	15.00	0.00	18.00	18.00	12.00	17.00	12.00	13.00	14.00	0.00	12.00	8.00
RANGE	0-18	0-9	10-21	6-22	5-21	11-21	2-21	5-21	0-20	0-13	5-16	1-17
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 14

SUBDOMAIN 14 COMPREHENSION (ITEM 37-38) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	12.5	72.7	-	2.7	5.0	-	14.3	6.4	20.5	52.2	-	38.5
MEAN	2.87	0.27	4.93	6.03	3.67	5.16	2.95	3.00	2.45	0.65	2.62	1.38
S.D.	1.80	0.46	2.03	1.91	2.18	1.65	2.16	2.15	2.15	0.77	1.12	1.42
MEDIAN	2.83	0.19	4.83	6.44	3.50	5.00	2.50	2.65	1.90	0.46	2.69	1.00
MODE	2.00	0.00	4.00	7.00	2.00	4.00	2.00	1.00	1.00	0.00	3.00	0.00
RANGE	0-7	0-1	1-8	0-8	0-8	1-8	0-8	0-8	0-8	0-2	1-5	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 15 SOCIAL LANGUAGE DEVELOPMENT (ITEM 39-40) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	54.5	-	-	-	-	3.6	-	6.8	21.7	-	30.8
MEAN	5.29	0.82	6.57	7.86	5.30	7.19	4.23	5.19	3.75	1.30	4.67	2.38
S.D.	1.52	1.01	2.06	1.60	2.05	1.49	2.24	2.19	2.00	1.29	2.37	2.17
MEDIAN	5.20	0.42	7.17	8.15	5.65	7.45	4.20	5.27	3.73	1.00	4.75	2.00
MODE	5.00	0.00	8.00	9.00	6.00	7.00	4.00	5.00	4.00	1.00	7.00	0.00
RANGE	2-8	0-3	3-9	3-11	1-9	3-9	0-8	1-9	0-8	0-5	1-8	0-6
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 15

SUBDOMAIN 16 NUMBERS AND TIME (ITEM 41-43) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	95.5	-	-	15.0	-	14.3	10.6	36.4	78.3	28.6	61.5
MEAN	5.58	0.09	8.10	9.97	4.92	8.71	4.61	5.25	2.52	0.30	2.76	1.77
S.D.	2.53	0.43	3.15	2.70	3.69	2.07	3.52	3.58	2.66	0.63	2.72	2.64
MEDIAN	6.00	0.05	7.50	11.08	4.83	9.00	4.30	4.67	2.17	0.14	1.75	0.31
MODE	6.00	0.00	12.00	12.00	0.00	9.00	0.00	3.00	0.00	0.00	0.00	0.00
RANGE	1-11	0-2	3-12	2-12	0-12	4-12	0-11	0-12	0-11	0-2	0-7	0-8
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 16

TABLE 17

SUBDOMAIN 17 CLEANING (ITEM 44-45) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	33.3	95.5	10.0	10.8	27.5	-	48.2	48.9	68.2	95.7	33.3	69.2
MEAN	1.83	0.04	3.73	2.92	2.57	4.84	1.34	1.04	1.04	0.04	1.76	0.88
S.D.	1.74	0.21	2.13	1.86	2.22	0.97	1.75	1.55	1.80	0.21	1.81	1.61
MEDIAN	1.30	0.02	4.61	3.00	2.50	4.96	0.58	0.53	0.23	0.02	1.37	0.22
MODE	0.00	0.00	5.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-5	0-1	0-6	0-6	0-6	3-6	0-6	0-5	0-6	0-1	0-5	0-5
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 18 KITCHEN DUTIES (ITEM 46-48) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	4.2	95.5	-	2.7	15.0	-	37.5	2.1	25.0	65.2	4.8	46.2
MEAN	3.79	0.04	4.97	5.11	3.25	5.10	2.07	2.32	1.29	0.65	3.29	1.42
S.D.	2.23	0.21	1.35	1.91	2.40	1.14	1.97	1.30	1.13	0.93	1.42	1.77
MEDIAN	3.50	0.02	5.57	5.33	3.50	5.08	1.87	2.12	1.11	0.27	3.19	0.70
MODE	2.00	0.00	6.00	7.00	4.00	5.00	0.00	1.00	1.00	0.00	3.00	0.00
RANGE	0-7	0-1	2-7	0-8	0-8	3-7	0-5	0-5	0-4	0-2	0-5	0-5
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 19 OTHER DOMESTIC ACTIVITIES (ITEM 49) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	25.0	100.0	3.3	5.4	30.0	-	50.0	25.5	47.7	73.9	33.3	65.4
MEAN	2.12	0.00	2.87	3.11	2.02	3.52	1.46	1.60	1.41	0.39	1.86	0.77
S.D.	1.68	0.00	1.22	1.24	1.53	0.89	1.68	1.45	1.62	0.72	1.65	1.37
MEDIAN	2.50	0.00	3.17	3.62	2.50	3.79	0.50	1.18	0.67	0.18	1.75	0.26
MODE	4.00	0.00	4.00	4.00	3.00	4.00	0.00	1.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-0	0-4	0-4	0-4	1-4	0-4	0-4	0-4	0-2	0-4	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 20

SUBDOMAIN 20 VOCATIONAL ACTIVITY (ITEM 50-52) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	87.5	100.0	20.0	2.7	17.5	-	37.5	8.5	18.2	100.0	42.9	73.1
MEAN	0.92	0.00	6.80	8.03	7.17	8.97	5.50	7.77	7.09	0.00	5.00	2.08
S.D.	2.72	0.00	3.77	2.97	3.67	1.56	4.50	3.29	2.59	0.00	4.58	3.61
MEDIAN	0.07	0.00	8.62	9.42	8.64	9.59	7.75	9.60	8.50	0.00	6.75	0.18
MODE	0.00	0.00	9.00	10.00	10.00	10.00	0.00	10.00	10.00	0.00	0.00	0.00
RANGE	0-10	0-0	0-10	0-11	0-11	4-10	0-11	0-10	0-10	0-0	0-11	0-10
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 21 INITIATIVE (ITEM 53-54) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	18.2	-	-	5.0	-	7.1	-	-	-	-	26.9
MEAN	5.83	2.54	5.97	6.76	4.57	6.61	4.04	6.68	4.36	3.09	5.90	2.19
S.D.	2.12	1.40	2.27	1.64	2.37	1.28	2.67	1.68	1.46	1.95	1.61	1.92
MEDIAN	6.25	2.87	6.50	7.11	4.28	6.60	3.50	7.08	4.50	2.43	5.87	2.10
MODE	7.00	3.00	7.00	8.00	4.00	8.00	1.00	8.00	5.00	2.00	8.00	0.00
RANGE	2-9	0-4	2-9	3-9	0-9	4-8	0-8	2-9	1-7	1-7	3-8	0-6
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 21

SUBDOMAIN 22 PERSEVERENCE (ITEM 55-56) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	4.2	-	-	2.7	5.0	-	7.1	2.1	-	17.4	9.5	38.5
MEAN	5.08	1.82	5.40	6.49	3.87	4.61	4.84	5.94	3.45	1.39	3.52	1.31
S.D.	2.62	0.79	2.09	1.88	2.41	1.50	2.67	1.93	1.90	1.08	2.27	1.44
MEDIAN	6.17	1.75	6.17	7.05	3.33	4.69	5.64	6.38	3.00	1.25	3.60	1.00
MODE	7.00	1.00	7.00	8.00	2.00	4.00	7.00	7.00	2.00	1.00	4.00	0.00
RANGE	0-8	1-3	2-8	0-8	0-8	1-7	0-9	0-8	1-8	0-4	0-8	0-5
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 23 LEISURETIME (ITEM 57) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	8.3	100.0	10.0	5.4	42.5	6.5	25.0	6.4	13.6	82.6	19.0	69.2
MEAN	1.54	0.00	1.33	1.97	0.80	1.32	0.80	0.98	0.95	0.17	0.90	0.38
S.D.	0.88	0.00	0.92	1.01	0.85	0.70	0.52	0.33	0.53	0.39	0.54	0.64
MEDIAN	1.41	0.00	1.10	2.08	0.69	1.21	0.86	0.99	0.96	0.10	0.93	0.22
MODE	1.00	0.00	1.00	3.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00
RANGE	0-3	0-0	0-3	0-3	0-3	0-3	0-2	0-2	0-3	0-1	0-2	0-2
CASES	24	22	30	37	40	31	56	47	44	23	21	26

SUBDOMAIN 24 RESPONSIBILITY (ITEM 58-59) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	12.5	100.0	-	8.1	25.0	-	16.1	6.4	20.5	69.6	9.5	65.4
MEAN	2.54	0.00	3.50	3.59	2.52	3.97	2.86	3.23	2.02	0.56	2.52	0.73
S.D.	1.59	0.00	1.31	1.67	1.88	1.17	1.83	1.48	1.44	0.99	1.50	1.18
MEDIAN	2.50	0.00	3.80	3.89	2.79	3.97	3.06	3.37	2.00	0.22	2.42	0.26
MODE	4.00	0.00	4.00	5.00	0.00	4.00	4.00	3.00	2.00	0.00	2.00	0.00
RANGE	0-5	0-0	1-5	0-6	0-6	1-6	0-6	0-6	0-5	0-3	0-5	0-4
CASES	24	22	30	37	40	31	56	47	44	23	21	26

TABLE 25

SUBDOMAIN 25 SOCIALISATION (ITEM 60-66) ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	5	GBNH	6	12	1	4	4A	11
%ZERO	-	9.1	-	-	-	-	-	-	-	4.3	-	-
MEAN	17.92	5.18	18.83	20.22	14.90	18.52	14.79	16.02	12.64	8.70	15.81	11.11
S.D.	4.26	3.62	4.12	3.95	3.85	3.54	4.36	3.10	3.19	3.51	3.97	3.41
MEDIAN	18.00	4.00	19.00	21.20	14.50	18.33	14.36	16.40	12.50	8.08	16.00	10.17
MODE	18.00	3.00	13.00	23.00	14.00	15.00	14.00	17.00	13.00	8.00	18.00	15.00
RANGE	10-26	0-11	12-25	11-26	7-24	11-24	8-23	7-21	7-21	0-18	8-22	6-17
CASES	24	22	30	37	40	31	56	47	44	23	21	26

APPENDIX I

ADAPTIVE BEHAVIOR SCALE PART I ITEM SCORES

ITEM 1 USE OF TABLE UTENSILS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6	16.7		63.3	78.4	48.4	67.5	7.1	29.8	22.7		28.6	11.5
5	33.3		16.7	13.5	48.4	17.5	37.5	40.4	22.7		33.3	15.4
4	29.2		16.7	5.4	3.2	5.0	23.2	19.1	20.5	43.5	23.8	11.5
3	12.5	22.7	33.3			2.5	17.9	2.1	11.4	30.4	14.3	15.4
2	4.2	22.7				7.5	8.9	8.5	13.6	8.7		19.2
1	4.2	40.9		2.7			5.4		6.8	13.0		19.2
0		13.6							2.3	4.3		7.7
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.33	1.54	5.40	5.62	5.45	5.35	4.00	4.81	4.00	2.96	4.76	2.96
SD	1.27	1.01	0.89	0.95	0.57	1.19	1.31	1.15	1.68	1.22	1.04	1.89

TABLE 2

ITEM 2 EATING IN PUBLIC ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	16.7		26.7	54.1	16.1	15.0	3.6		2.3			
2	50.0		43.3	32.4	67.7	32.5	33.9	14.9	11.4		4.8	3.8
1	20.8		16.7	5.4	16.1	15.0	26.8	36.2	31.8		57.1	34.6
0	12.5	100.0	13.3	8.1		37.5	35.7	48.9	54.5	100.0	38.1	61.5
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.71	0.00	1.83	2.32	2.00	1.25	1.05	0.66	0.61	0.00	0.67	0.42
SD	0.91	0.00	0.99	0.91	0.58	1.13	0.92	0.73	0.78	0.00	0.58	0.58

ITEM 3 DRINKING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	75.0	9.1	66.7	81.1	100.0	77.5	67.9	95.7	65.9	39.1	66.7	26.9
2	16.7	54.5	30.0	18.9		22.5	25.0	2.1	29.5	34.8	33.3	69.2
1	8.3	27.0	3.3				7.1	2.1	2.3	21.7		3.8
0		9.1							2.3	4.3		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.67	1.64	2.63	2.81	3.00	2.77	2.61	2.94	2.59	2.09	2.67	2.23
SD	0.64	0.79	0.56	0.40	0.00	0.42	0.62	0.32	0.66	0.90	0.48	0.51

TABLE 3

ITEM 4 TABLE MANNERS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
8	8.3		66.7	5.4	67.7	62.5	23.2	10.6	63.6	26.1	42.9	
7	37.5	22.7	10.0	48.6	25.8	25.0	37.5	36.2	13.6		19.0	19.2
6	25.0	18.2	6.7	8.1	3.2		14.3	25.5	9.1	8.7	14.3	30.8
5		18.2	6.7	13.5	3.2	5.0	5.4	10.6	4.5	17.4	9.5	11.5
4	8.3	22.7	10.0	16.2			8.9	8.5	2.3	17.4	4.8	7.7
3	8.3	9.1		5.4		2.5	1.8	2.1	6.8	26.1	4.8	11.5
2	4.2					5.0	1.8			4.3	4.8	19.2
1	4.2			2.7			5.4	4.3				
0	4.2	9.1					1.8	2.1				
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	5.50	4.77	7.17	5.84	7.58	7.17	6.11	5.89	7.11	5.04	6.52	4.81
SD	2.23	2.02	1.39	1.64	0.72	1.58	2.05	1.82	1.50	2.06	1.81	1.85

ITEM 5 TOILET TRAINING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	50.0		80.0	83.8	48.4	17.5	51.8	76.6	34.1	8.7	47.6	34.6
3	25.0	4.5	16.7	16.2	45.2	50.0	32.1	19.1	20.5	13.0	33.3	23.1
2	25.0	4.5	3.3		6.5	22.5	10.7		34.1	56.5	19.0	26.9
1		36.4				10.0	3.6	4.3	9.1	17.4		15.4
0		54.5					1.8		2.3	4.3		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.25	0.59	3.77	3.84	3.42	2.75	3.29	3.68	2.75	2.04	3.29	2.77
SD	0.85	0.80	0.50	0.37	0.62	0.87	0.93	0.70	1.10	0.93	0.78	1.11

TABLE 5

TABLE 6

ITEM 6 SELF-CARE AT TOILET ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6	66.7		100.0	91.9	100.0	85.0	73.2	85.1	77.3	21.7	90.5	46.2
5	12.5	4.5		2.7		10.0	12.5	8.5	9.1	17.4		11.5
4	8.3					5.0	1.8		2.3		4.8	15.4
3	12.5	18.2		5.4			1.8	4.3		26.1	4.8	7.7
2		9.1					7.1	2.1	4.5	4.3		7.7
1		18.2					3.6		4.5	13.0		
0		50.0							2.3	17.4		11.5
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	5.33	1.14	6.00	5.81	6.00	5.80	5.32	5.70	5.32	3.17	5.76	4.35
SD	1.09	1.46	0.00	0.70	0.00	0.52	1.40	0.86	1.57	2.23	0.77	2.06

ITEM 7 WASHING HANDS AND FACE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	87.5	4.5	66.7	89.2	100.0	95.0	73.2	89.4	86.4	34.8	100.0	73.1
3	12.5	18.2	33.3	5.4			5.4	4.3				
2		4.5		5.4		2.5	8.9	2.1	2.3	8.7		3.8
1							3.6	2.1	6.8	17.4		3.8
0		72.7				2.5	8.9	2.1	4.5	39.1		19.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.88	0.82	3.67	3.84	4.00	3.85	3.30	3.77	3.57	1.74	4.00	3.04
SD	0.34	1.40	0.48	0.50	0.00	0.70	1.31	0.79	1.13	1.79	0.00	1.66

TABLE 8

ITEM 8 BATHING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6	16.7		26.7	45.9	51.6	12.5		14.9	6.8			15.4
5	16.7		26.7	35.1	38.7	37.5	19.6	4.3	6.8		19.0	7.7
4	37.5		30.0	10.8	3.2	12.5	28.6	25.5	13.6	13.0	28.6	7.7
3	12.5		16.7		3.2	22.5	14.3	34.0	31.8	17.4	28.6	19.2
2	4.2	18.2		2.7	3.2	7.5	19.6	10.6	20.5	8.7	9.5	15.4
1	12.5	22.7				7.5	10.7	8.5	13.6	26.1	9.5	15.4
0		59.1		5.4			7.1	2.1	6.8	34.8	4.8	19.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.92	0.59	4.63	5.00	5.32	4.03	3.05	3.45	2.80	1.48	3.24	2.65
SD	1.53	0.80	1.07	1.49	0.95	1.46	1.54	1.50	1.55	1.47	1.41	2.08

ITEM 9 PERSONAL HYGIENE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	16.7		6.7	13.5	35.5	17.5	5.4	21.3	4.5	30.4	28.6	
3	54.2	4.5	26.7	27.0	29.0	12.5	14.3	19.1	20.5	21.7	23.8	
2	20.8	31.8	40.0	24.3	29.0	20.5	26.8	19.1	59.1		14.3	26.9
1	8.3	40.9	13.3	13.5	3.2	22.5	37.5	23.4	6.8	30.4	23.8	57.7
0		22.7	13.3	21.6	3.2	27.5	16.1	17.0	9.1	17.4	9.5	15.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.79	1.18	2.00	1.97	2.90	1.70	1.55	2.04	2.05	2.17	2.38	1.12
SD	0.83	0.85	1.11	1.36	1.04	1.45	1.09	1.41	0.91	1.59	1.40	0.65

ITEM 10 TOOTH BRUSHING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	16.7		20.0	2.7			1.8					
4	50.0		33.3	29.7	19.4	15.0	5.4	10.6	15.9		19.0	3.8
3	20.8		40.0	27.0	48.4	20.0	16.1	51.1	18.2	8.7	14.3	
2	4.2	27.3	6.7	16.2	22.6	12.5	23.2	8.5	22.7	34.8	19.0	11.5
1	8.3	45.5		18.9	9.7	27.5	37.5	10.6	27.3	52.2	28.6	38.5
0		27.3		5.4		25.0	16.1	19.1	15.9	4.3	19.0	46.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.63	1.00	3.67	2.65	2.77	1.73	1.63	2.23	1.91	1.48	1.86	0.77
SD	1.10	0.76	0.88	1.32	0.88	1.43	1.20	1.34	1.33	0.73	1.42	0.95

TABLE 10

TABLE 11

ITEM 11 MENSTRUATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	91.7	77.3	100.0	100.0	77.4	30.0	100.0	100.0	9.1		42.9	100.0
4	4.2	9.1			6.5	32.5			25.0		23.8	
3					16.1	15.0			25.0		19.0	
2						5.0			29.5	21.7	9.5	
1						10.0			4.5	21.7	4.8	
0	4.2	13.6				7.5			6.8	56.5		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.75	4.23	5.00	5.00	4.61	3.45	5.00	5.00	2.84	0.65	3.90	5.00
SD	1.03	1.74	0.00	0.00	0.76	1.58	0.00	0.00	1.31	0.83	1.22	0.00

ITEM 12 POSTURE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
8	50.0	27.3	76.7	62.2	80.6	77.5	73.2	78.7	75.0	52.2	57.1	50.0
7	33.3	22.7	16.7	24.3	9.7	17.5	16.1	6.4	9.1	26.1	23.8	15.4
6	8.2	18.2		13.5	6.5		3.6	12.8	2.3	13.0	4.8	15.4
5	4.2	13.6	3.3		3.2	5.0	3.6	2.1	9.1	8.7	9.5	7.7
4	4.2	4.5	3.3				1.8		4.5		4.8	3.8
3		9.1					1.8					7.7
2												
1												
0		4.5										
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	7.21	6.00	7.60	7.49	7.68	7.68	7.50	7.62	7.41	7.22	7.19	6.77
SD	1.06	2.07	0.93	0.73	0.75	0.73	1.06	0.80	1.19	1.00	1.21	1.61

TABLE 12

TABLE 13

ITEM 13 CLOTHING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
7				5.4	22.6	17.5			6.8		4.8	
6			3.3	16.2	3.2				15.9		4.8	
5			13.3	8.1	19.4	10.0				4.3	9.5	3.8
4	16.7		66.7	35.1	29.0	5.0	10.7	6.4	13.6	8.7	23.8	
3	37.5		13.3	5.4	3.2	7.5	12.5	25.5	27.3	73.9	14.3	
2	8.3		3.3	13.5	16.1	7.5	21.4	19.1	25.0	8.7	19.0	26.9
1	29.2			16.2	6.4	17.5	8.9	21.3	11.4		4.8	23.1
0	8.3	100.0				35.0	46.4	27.7		4.3	19.0	46.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.25	0.00	4.00	3.76	4.39	2.48	1.32	1.62	3.41	2.96	2.91	0.96
SD	1.29	0.00	0.74	1.82	2.01	2.66	1.44	1.31	1.81	0.88	2.02	1.18

ITEM 14 CARE OF CLOTHING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	33.3		33.3	51.4	35.5	22.5	8.9	17.0	11.4		14.3	3.8
3	20.8		26.7	8.1	16.1	22.5	32.1	12.8	11.4		23.8	30.8
2	25.0		23.3	10.8	12.9	17.5	5.4	19.1	4.5		23.8	3.8
1	4.2		10.0	16.2	19.4	2.5	12.5	8.5	22.7	17.4	14.3	11.5
0	16.7	100.0	6.7	13.5	16.1	35.0	41.1	42.6	50.0	82.6	23.8	50.0
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.50	0.00	2.70	2.68	2.36	1.95	1.55	1.53	1.11	0.17	1.91	1.27
SD	1.45	0.00	1.24	1.56	1.54	1.62	1.51	1.56	1.43	0.39	1.41	1.46

ITEM 15 DRESSING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	37.5		76.7	89.2	93.5	62.5	37.5	40.4	34.1	4.3	14.3	19.2
4	25.0		16.7	2.7	6.5	10.0	30.4	38.3	36.4	30.4		38.5
3	12.5	9.1	6.7	2.7		15.0	10.7	8.5	6.8	17.4	38.1	19.2
2	20.8	9.1				10.0	10.7	8.5	9.1	21.7	33.3	3.8
1	4.2	45.5		2.7		2.5	7.1	4.3	4.5	26.1	14.3	11.5
0		36.4		2.7			3.6		9.1			7.7
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.71	0.91	4.70	4.68	4.94	4.20	3.70	4.02	3.59	2.65	2.67	3.27
SD	1.30	0.92	0.60	1.08	0.25	1.13	1.44	1.11	1.59	1.30	1.20	1.54

TABLE 15

TABLE 16

ITEM 16 UNDRESSING AT APPROPRIATE TIMES ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	58.3		86.7	91.9	93.5	77.5	75.0	91.5	29.5	34.8	33.3	65.4
4	33.3	9.1	10.0	2.7	6.5	12.5	7.1	8.5	36.4	30.4	28.6	19.2
3	8.3	4.5	3.3	5.4		10.0	10.7		13.6	4.3	28.6	3.8
2		27.3					5.4		6.8	4.3	9.5	3.8
1		27.3					1.8		6.8	26.1		7.7
0		31.8							6.8			
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.50	1.32	4.83	4.87	4.94	4.68	4.48	4.92	3.55	3.44	3.86	4.31
SD	0.66	1.25	0.46	0.48	0.25	0.66	1.01	0.28	1.50	1.65	1.01	1.23

ITEM 17 SHOES ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	8.3		70.0	89.2	100.0	70.0	73.2	66.0	63.6	4.3	23.8	30.8
3	29.2		16.7			7.5	7.1	4.3	6.8	21.7	19.0	11.5
2	25.0	13.6	10.0	2.7		17.5	5.4	23.4	4.5	21.7	23.8	19.2
1	33.3	9.1	3.3	2.7		5.0	12.5	6.4	2.3	26.1	33.3	38.5
0	4.2	77.3		5.4			1.8		22.7	26.1		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.04	0.36	3.53	3.65	4.00	3.43	3.38	3.30	2.86	1.52	2.33	2.35
SD	1.08	0.73	0.82	1.06	0.00	0.96	1.15	1.04	1.69	1.24	1.20	1.29

TABLE 17

ITEM 18 SENSE OF DIRECTION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	70.8		36.7	75.7	93.5	40.0	28.6	10.6	15.9			7.7
2	29.2		60.0	21.6	6.5	40.0	44.6	78.7	29.5	21.7	100.0	69.2
1		31.8	3.3	2.7		20.0	25.0	10.6	34.1	69.6		19.2
0		68.2					1.8		20.5	8.7		3.8
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.71	0.32	2.33	2.73	2.94	2.20	2.00	2.00	1.41	1.13	2.00	1.81
SD	0.46	0.48	0.55	0.51	0.25	0.76	0.79	0.47	1.00	0.55	0.00	0.63

TABLE 18

ITEM 19 PUBLIC TRANSPORTATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	8.3		26.7	51.4	6.5	10.0						
3			10.0	8.1	6.5	15.0	3.6	2.1				
2	4.2			5.4	25.8	10.0	8.9	2.1				
1	12.5		23.3	18.9	48.4	7.5	14.3	4.3	11.4			
0	75.0	100.0	40.0	16.2	12.9	57.5	73.2	91.5	88.6	100.0	100.0	100.0
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.54	0.00	1.60	2.60	1.45	1.13	0.43	0.15	0.11	0.00	0.00	0.00
SD	1.18	0.00	1.71	1.64	1.03	1.49	0.81	0.55	0.32	0.00	0.00	0.00

TABLE 20

ITEM 20 TELEPHONE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	4.2		33.3	45.9	9.7	10.0						
4	16.7		3.3	10.8	16.1	10.0	1.8					
3	8.3		3.3	13.5	9.7	15.0	5.4					
2			6.7	8.1	9.7		1.8					
1	12.5		6.7	2.7	16.1	2.5	1.8	4.3	2.3		4.8	7.7
0	58.3	100.0	46.7	18.9	38.7	62.5	89.3	95.7	97.7	100.0	95.2	92.3
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.25	0.00	2.10	3.32	1.77	1.38	0.29	0.04	0.02	0.00	0.05	0.08
SD	1.78	0.00	2.30	1.96	1.84	1.92	0.89	0.20	0.15	0.00	0.22	0.27

TABLE 21

ITEM 21 MISCELLANEOUS INDEPENDENT FUNCTIONING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
8			13.3	40.5	6.5	2.5		2.1				
7	8.3		10.0	8.1	19.4							
6	8.3		6.7	18.9	16.1	5.0		4.3	2.3		14.3	
5	8.3		20.0	8.1	16.1	10.0	1.8	21.3			4.8	
4	20.8		20.0	8.1	32.3	35.0	35.7	38.3	54.5	8.7	47.6	30.8
3	37.5		23.3	5.4	9.7	35.0	41.1	27.7	13.6	13.0	14.3	15.4
2	8.3	9.1	6.7	5.4		7.5	14.3	6.4	15.9	21.7	14.3	38.5
1		9.1		5.4		5.0	5.4		11.4	21.7	4.8	15.4
0	8.3	81.8					1.8		2.3	34.8		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.63	0.27	4.80	6.00	5.23	3.65	3.09	4.00	3.16	1.39	3.76	2.62
SD	1.79	0.63	1.86	2.22	1.50	1.31	0.98	1.22	1.26	1.34	1.34	1.10

ITEM 22 VISION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	87.5	90.9	90.0	70.3	77.4	90.0	75.0	91.5	61.4	95.7	85.7	96.2
2	8.3		6.7	29.7	19.4	10.0	16.1	8.5	31.8	4.3	14.3	
1	4.2	4.5	3.3		3.2		7.1		6.8			
0		4.5					1.8					3.8
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.83	2.77	2.87	2.70	2.74	2.90	2.64	2.92	2.55	2.96	2.86	2.89
SD	0.48	0.75	0.43	0.46	0.51	0.30	0.70	0.28	0.63	0.21	0.36	0.59

TABLE 22

ITEM 23 HEARING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	91.7	95.5	96.7	78.4	96.8	72.5	92.9	93.6	86.4	95.7	90.5	96.2
2	8.3	4.5	3.3	21.6		25.0	3.6	2.1	6.8	4.3	9.5	
1					3.2	2.5	1.8	4.3	6.8			
0							1.8					3.8
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.92	2.96	2.97	2.78	2.94	2.70	2.88	2.89	2.80	2.96	2.91	2.89
SD	0.28	0.21	0.18	0.42	0.36	0.52	0.51	0.43	0.55	0.21	0.30	0.59

TABLE 23

ITEM 24 BODY BALANCE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	33.3		40.0	43.2	19.4	27.5	35.7	27.7	2.3		4.8	
4	50.0	18.2	46.7	43.2	38.7	37.5	55.4	55.3	25.0	43.5	47.6	19.2
3	16.7	68.2	13.3	13.5	38.7	35.0	8.9	17.0	63.6	56.5	47.6	80.8
2		13.6			3.2				9.1			
1												
0												
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.17	3.05	4.27	4.30	3.74	3.93	4.27	4.11	3.21	3.44	3.57	3.19
SD	0.70	0.58	0.69	0.70	0.82	0.80	0.62	0.67	0.63	0.51	0.60	0.40

TABLE 25

ITEM 25 WALKING AND RUNNING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	75.0	31.8	90.0	89.2	64.5	72.5	69.6	53.2	27.3	17.4	47.6	38.5
4	12.5	9.1	3.3	5.4	25.8	15.0	16.1	42.6	20.5	39.1	23.8	57.7
3	8.3	4.5	6.7	5.4		10.0	10.7	4.3	25.0	30.4	19.0	3.8
2	4.2	9.1			6.5	2.5	3.6		11.4	13.0	4.8	
1		36.4			3.2				11.4		4.8	
0		9.1							4.5			
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.58	2.64	4.83	4.84	4.42	4.58	4.52	4.49	3.27	3.61	4.05	4.35
SD	0.83	1.94	0.53	0.50	1.03	0.78	0.83	0.59	1.50	0.94	1.16	0.56

ITEM 26 CONTROL OF HANDS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	83.3	9.1	80.0	94.6	38.7	20.0	75.0	46.8	54.5	17.4	42.9	57.7
3	8.3	4.5	6.7		54.8	55.0	8.9	42.6	11.4	21.7	47.6	19.2
2	8.3	72.7	6.7	5.4	6.5	20.0	14.3	10.6	31.8	34.8	9.5	11.5
1		9.1	6.7			5.0	1.8			21.7		11.5
0		4.5							2.3	4.3		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.75	2.05	3.60	3.89	3.32	2.90	3.57	3.36	3.16	2.26	3.33	3.23
SD	0.61	0.84	0.89	0.46	0.60	0.78	0.81	0.67	1.03	1.14	0.66	1.07

TABLE 26

ITEM 27 LIMB FUNCTION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	95.8	100.0	100.0	100.0	90.3	97.5	94.6	100.0	93.2	100.0	100.0	100.0
3	4.2				6.5	2.5	3.6					
2					3.2		1.8		6.8			
1												
0												
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.96	4.00	4.00	4.00	3.87	3.98	3.93	4.00	3.86	4.00	4.00	4.00
SD	0.20	0.00	0.00	0.00	0.43	0.16	0.32	0.00	0.51	0.00	0.00	0.00

ITEM 28 MONEY HANDLING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4				24.3	6.5	2.5						
3			30.0	35.1	12.9	12.5		8.5				
2	8.3		33.3	21.6	51.6	20.0	8.9	23.4	6.8			7.7
1	91.7		36.7	10.8	29.0	62.5	64.3	59.6	40.9	17.4	100.0	42.3
0		100.0		8.1		2.5	26.8	8.5	52.3	82.6		50.0
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.08	0.00	1.93	2.57	1.97	1.50	0.82	1.32	0.55	0.17	1.00	0.58
SD	0.28	0.00	0.83	1.21	0.84	0.85	0.58	0.76	0.63	0.39	0.00	0.64

ITEM 29 BUDGETING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4			13.3	64.9	19.4	10.0		6.4				
3			30.0	10.8	3.2	2.5	5.4	8.5				
2	33.3		6.7	2.7	16.1	5.0	16.1	6.4			14.3	7.7
1	37.5		10.0	2.7	16.1	15.0	25.0	12.8	4.5		4.8	
0	29.2	100.0	40.0	18.9	45.2	67.5	53.6	66.0	95.5	100.0	81.0	92.3
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.04	0.00	1.67	3.00	1.36	0.73	0.73	0.77	0.05	0.00	0.33	0.15
SD	0.81	0.00	1.58	1.60	1.56	1.30	0.92	1.27	0.21	0.00	0.73	0.54

TABLE 29

ITEM 30 ERRANDS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	8.3		33.3	48.6	38.7	12.5	1.8	8.5				
3	25.0		10.0	32.4	41.9	20.0	16.1	29.8	6.8			
2	8.3		33.3	10.8	12.9	30.0	30.4	31.9	13.6		19.0	3.8
1	33.3		6.7		6.5	25.0	17.9	17.0	29.5		47.6	23.1
0	25.0	100.0	16.7	8.1		12.5	33.9	12.8	50.0	100.0	33.3	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.58	0.00	2.37	3.14	3.13	1.95	1.34	2.04	0.77	0.00	0.86	0.31
SD	1.35	0.00	1.45	1.16	0.89	1.22	1.16	1.16	0.94	0.00	0.73	0.55

ITEM 31 PURCHASING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5			10.0	24.3	3.2	5.0						
4	8.3		6.7	18.9	12.9	5.0	3.6	6.4	2.3			
3	41.7		30.0	27.0	41.9	27.5	35.7	68.1	22.7		57.1	11.5
2	25.0		33.3	16.2	41.9	37.5	19.6	19.1	22.7	8.7	14.3	50.0
1	20.8		16.7	2.7		20.0	8.9		31.8	4.3	23.8	11.5
0	4.2	100.0	3.3	10.8		5.0	32.1	6.4	20.5	87.0	4.8	26.9
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.29	0.00	2.50	3.14	2.77	2.23	1.70	2.68	1.55	0.22	2.24	1.46
SD	1.04	0.00	1.25	1.57	0.81	1.14	1.35	0.86	1.13	0.60	1.00	1.03

TABLE 32

ITEM 32 WRITING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5				13.5	3.2	2.5						
4			16.7	18.9	12.9	5.0	5.4	2.1				3.8
3			16.7	21.6	12.9	5.0	3.6	8.5	2.3			7.7
2	8.3		23.3	18.9	29.0	25.0	8.9	4.3	6.8			11.5
1	41.7		30.0	13.5	38.7	22.5	8.9	19.1	6.8			11.5
0	50.0	100.0	13.3	13.5	3.2	40.0	73.2	66.0	84.1	100.0	100.0	65.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.58	0.00	1.93	2.60	2.03	1.20	0.59	0.62	0.27	0.00	0.00	0.73
SD	0.65	0.00	1.31	1.61	1.22	1.31	1.14	1.05	0.69	0.00	0.00	1.19

ITEM 33 PREVERBAL EXPRESSION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6	95.8	22.7	100.0	100.0	100.0	97.5	89.3	97.9	90.9	43.5	90.5	65.4
5						2.5	3.6	2.1	6.8		9.5	3.8
4		9.1					5.4			4.3		7.7
3		9.1								17.4		
2		4.5					1.8			8.7		
1										4.3		23.1
0	4.2	54.5							2.3	21.7		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	5.75	2.09	6.00	6.00	6.00	5.98	5.79	5.98	5.80	3.52	5.91	4.65
SD	1.23	2.56	0.00	0.00	0.00	0.16	0.71	0.15	0.93	2.48	0.30	2.12

TABLE 33

TABLE 34

ITEM 34 ARTICULATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	41.7		63.3	81.1	83.9	82.5	35.7	85.1	75.0	13.0	23.8	34.6
3	29.2		16.7	10.8		5.0	16.1	8.5	15.9	26.1	19.0	7.7
2	20.8	13.6	20.0	5.4	12.9	7.5	17.9	4.3		8.7	23.8	23.1
1	4.2	9.1			3.2	2.5	14.3		2.3		23.8	19.2
0	4.2	77.3		2.7		2.5	16.1	2.1	6.8	52.2	9.5	15.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.00	0.36	3.43	3.68	3.65	3.63	2.41	3.75	3.50	1.48	2.24	2.31
SD	1.10	0.73	0.82	0.82	0.84	0.93	1.50	0.74	1.11	1.65	1.34	1.57

TABLE 35

ITEM 35 SENTENCES ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	20.8		30.0	45.9	35.5	22.5	10.7	14.9	13.6		9.5	
2	45.8		36.7	43.2	51.6	20.0	32.1	40.4	36.4		28.6	19.2
1	25.0		26.7	8.1	12.9	50.0	41.1	27.7	31.8	13.0	42.9	19.2
0	8.3	100.0	6.7	2.7		7.5	16.1	17.0	18.2	87.0	19.0	61.5
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.79	0.00	1.90	2.32	2.23	1.58	1.38	1.53	1.46	0.13	1.29	0.58
SD	0.88	0.00	0.92	0.75	0.67	0.93	0.89	0.95	0.95	0.34	0.90	0.81

ITEM 36 WORD USAGE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	12.5		40.0	32.4	6.5	5.0	7.1	12.8	6.8			3.8
3	37.5		16.7	54.1	67.7	22.5	26.8	36.2	13.6		28.6	19.2
2	37.5		33.3	8.1	25.8	37.5	39.3	29.8	47.7	8.7	28.6	15.4
1	8.3	9.1	6.7	2.7		27.5	14.3	8.5	15.9	21.7	19.0	19.2
0	4.2	90.9	3.3	2.7		7.5	12.5	12.8	15.9	69.6	23.8	42.3
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.46	0.09	2.83	3.11	2.81	1.90	2.02	2.28	1.80	0.39	1.62	1.23
SD	0.98	0.29	1.15	0.88	0.54	1.01	1.10	1.19	1.09	0.66	1.16	1.31

TABLE 37

ITEM 37 READING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5			13.3	21.6	9.7	5.0	1.8	6.4	2.3			
4	4.2		13.3	27.0	12.9	7.5	7.1	2.1	2.3			
3			10.0	21.6	19.4	7.5	7.1	4.3	4.5			
2	12.5		23.3	16.2	19.4	20.0	12.5	14.9	25.0		4.8	
1	58.3		23.3	8.1	29.0	20.0	16.1	19.1	13.6		14.3	7.7
0	25.0	100.0	16.7	5.4	9.7	40.0	55.4	53.2	52.3	100.0	81.0	92.3
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.00	0.00	2.20	3.22	2.26	1.38	1.00	1.02	0.98	0.00	0.24	0.08
SD	0.89	0.00	1.67	1.46	1.51	1.51	1.39	1.45	1.25	0.00	0.54	0.27

ITEM 38 COMPLEX INSTRUCTIONS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	41.7		83.3	91.9	93.5	55.0	37.5	38.3	38.6		57.1	30.8
2	16.7		6.7	2.7	3.2	25.0	33.9	27.7	4.5	17.4	23.8	7.7
1	29.2	27.3	10.0		3.2	15.0	14.3	27.7	22.7	30.4	19.0	23.1
0	12.5	72.7		5.4		5.0	14.3	6.4	34.1	52.2		38.5
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.88	0.27	2.73	2.81	2.90	2.30	1.95	1.98	1.48	0.65	2.38	1.31
SD	1.12	0.46	0.64	0.70	0.40	0.91	1.05	0.97	1.32	0.78	0.81	1.29

TABLE 38

ITEM 39 CONVERSATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	66.7		70.0	89.2	77.4	62.5	19.6	38.3	13.6		42.9	7.7
2	25.0		13.3	5.4	12.9	17.5	28.6	31.9	13.6	13.0	4.8	15.4
1	4.2	4.5	10.0	5.4	9.7	7.5	25.0	12.8	50.0	8.7	33.3	26.9
0	4.2	95.5	6.7			12.5	26.8	17.0	22.7	78.3	19.0	50.0
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.54	0.05	2.47	2.84	2.68	2.30	1.41	1.92	1.18	0.35	1.71	0.81
SD	0.78	0.21	0.94	0.50	0.65	1.07	1.09	1.10	0.95	0.71	1.23	0.98

TABLE 39

TABLE 40

ITEM 40 MISCELLANEOUS LANGUAGE DEVELOPMENT ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6			23.3	5.4	19.4	2.5		2.1				
5	8.3		23.3	35.1	35.5	12.5	10.7	19.1	4.5		9.5	
4	12.5		13.3	29.7	29.0	7.5	23.2	19.1	13.6		28.6	3.8
3	29.2		20.0	13.5	12.9	52.5	26.8	29.8	36.4	4.3	23.8	30.8
2	45.8	31.8	20.0	13.5		12.5	19.6	23.4	31.8	13.0	23.8	15.4
1	4.2	13.6		2.7	3.2	10.0	16.1	6.4	6.8	56.5	14.3	19.2
0		54.5				2.5	3.6		6.8	26.1		30.8
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.75	0.77	4.10	5.03	4.52	3.00	2.82	3.28	2.57	0.96	2.95	1.58
SD	1.03	0.92	1.49	1.34	1.15	1.26	1.35	1.26	1.17	0.77	1.24	1.33

ITEM 41 NUMBERS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	4.2		26.7	40.5	3.2	2.5		10.6				
4	16.7		23.3	40.5	35.5	15.0	17.9	8.5	4.5			
3	41.7		20.0	8.1	38.7	25.0	10.7	21.3	9.1		19.0	15.4
2	20.8	4.5	23.3	10.8	19.4	17.5	23.2	21.3	11.4	8.7	28.6	11.5
1	16.7		6.7		3.2	25.0	25.0	23.4	22.7	13.0	23.8	7.7
0		95.5				15.0	23.2	14.9	52.3	78.3	28.6	65.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.71	0.09	3.40	4.11	3.16	2.08	1.75	2.17	0.91	0.30	1.38	0.77
SD	1.08	0.43	1.30	0.97	0.90	1.40	1.41	1.54	1.20	0.64	1.12	1.18

ITEM 42 TIME ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4			36.7	59.5	29.0	12.5	5.4	10.6				
3	8.3		6.7	13.5	35.5	12.5	8.9	10.6	4.5			3.8
2	12.5		6.7	8.1	6.5	12.5	8.9	2.1	22.7			
1	58.3		26.7	10.8	19.4	20.0	39.3	25.5	11.4		23.8	23.1
0	20.8	100.0	23.3	8.1	9.7	42.5	37.5	51.1	61.4	100.0	76.2	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.08	0.00	2.07	3.05	2.55	1.33	1.05	1.04	0.75	0.00	0.24	0.35
SD	0.83	0.00	1.68	1.37	1.36	1.46	1.15	1.40	1.10	0.00	0.44	0.69

ITEM 43 TIME CONCEPT ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	16.7		66.7	86.5	100.0	20.0	41.0	44.7	9.1		28.6	
2	58.3		30.0	8.1		42.5	17.9	29.8	15.9		9.5	30.8
1	12.5		3.3	2.7		7.5	14.3	10.6	27.3		9.5	3.8
0	12.5	100.0		2.7		30.0	26.8	14.9	47.7	100.0	52.4	65.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.79	0.00	2.63	2.81	3.00	1.53	1.80	2.04	0.86	0.00	1.14	0.65
SD	0.88	0.00	0.56	0.66	0.00	1.13	1.35	1.08	1.00	0.00	1.35	0.94

ITEM 44 ROOM CLEANING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
2	4.2		36.7	16.2	41.9	22.5	8.9	10.6	11.4		14.3	3.8
1	62.5	4.5	50.0	67.6	58.1	47.5	33.9	40.4	13.6		52.4	23.1
0	33.3	95.5	13.3	16.2		30.0	57.1	48.9	75.0	100.0	33.3	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.71	0.05	1.23	1.00	1.42	0.93	0.52	0.62	0.36	0.00	0.81	0.31
SD	0.55	0.21	0.68	0.58	0.50	0.73	0.66	0.68	0.69	0.00	0.68	0.55

ITEM 45 LAUNDRY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4			43.3	16.2	54.8	22.5	3.6		4.5			
3	25.0		20.0	32.4	32.3	20.0	14.3	12.8	13.6		23.8	15.4
2	16.7		3.3	8.1	12.9		5.4	2.1				3.8
1	4.2		10.0	13.5		15.0	14.3		9.1	4.3	23.8	3.8
0	54.2	100.0	23.3	29.7		42.5	62.5	85.1	72.7	95.7	52.4	76.9
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.13	0.00	2.50	1.92	3.42	1.65	0.82	0.43	0.68	0.04	0.95	0.58
SD	1.33	0.00	1.68	1.53	0.72	1.70	1.25	1.04	1.27	0.21	1.24	1.14

TABLE 45

TABLE 46

ITEM 46 TABLE SETTING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	12.5			24.3	22.6	12.5						3.8
2	41.7		66.7	56.8	54.8	20.0	25.0	25.5	11.4		38.1	19.2
1	29.2		30.0	10.8	22.6	32.5	33.9	23.4	27.3	34.8	47.6	11.5
0	16.7	100.0	3.3	8.1		35.0	41.1	51.1	61.4	65.2	14.3	65.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.50	0.00	1.63	1.97	2.00	1.10	0.84	0.75	0.50	0.35	1.24	0.62
SD	0.93	0.00	0.56	0.83	0.68	1.03	0.80	0.85	0.70	0.49	0.70	0.94

ITEM 47 FOOD PREPARATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	4.2		3.3	16.2		5.0						
2	20.8		53.3	24.3	25.8	15.0						
1	33.3		43.3	40.5	61.3	22.5	33.9	55.3	11.4		81.0	19.2
0	41.7	100.0		18.9	12.9	57.5	66.1	44.7	88.6	100.0	19.0	80.8
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.88	0.00	1.60	1.38	1.13	0.68	0.34	0.55	0.11	0.00	0.81	0.19
SD	0.90	0.00	0.56	0.98	0.62	0.92	0.48	0.50	0.32	0.00	0.40	0.40

TABLE 47

ITEM 48 TABLE CLEARING ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
2	45.8		73.3	78.4	96.8	62.5	32.1	8.5			33.3	7.7
1	50.0	4.5	26.7	18.9	3.2	22.5	25.0	83.0	68.2	30.4	57.1	46.2
0	4.2	95.5		2.7		15.0	42.9	8.5	31.8	69.6	9.5	46.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.42	0.05	1.73	1.76	1.97	1.48	0.89	1.02	0.68	0.30	1.24	0.62
SD	0.58	0.21	0.45	0.50	0.18	0.75	0.87	0.49	0.47	0.47	0.63	0.64

TABLE 48

ITEM 49 GENERAL DOMESTIC ACTIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	33.3		40.0	56.8	71.0	17.5	21.4	19.1	18.2		23.8	11.5
3	16.7		30.0	16.2	16.1	32.5	12.5	8.5	13.6		19.0	3.8
2	4.2		10.0	13.5	6.5	15.0	7.1	10.6	6.8	13.0	9.5	
1	20.8		16.7	8.1	6.5	5.0	8.9	36.2	13.6	13.0	14.3	19.2
0	25.0	100.0	3.3	5.4		30.0	50.0	25.5	47.7	73.9	33.3	65.4
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.13	0.00	2.87	3.11	3.52	2.03	1.46	1.60	1.41	0.39	1.86	0.77
SD	1.68	0.00	1.22	1.24	0.89	1.53	1.68	1.46	1.62	0.72	1.65	1.37

ITEM 50 JOB COMPLEXITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
2			16.7	24.3		7.5	1.8				4.8	
1	12.5		63.3	73.0	100.0	72.5	60.7	91.5	77.3		52.4	26.9
0	87.5	100.0	20.0	2.7		20.0	37.5	8.5	22.7	100.0	42.9	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.13	0.00	0.97	1.22	1.00	0.88	0.64	0.92	0.77	0.00	0.62	0.27
SD	0.34	0.00	0.62	0.48	0.00	0.52	0.52	0.28	0.42	0.00	0.59	0.45

TABLE 50

TABLE 51

ITEM 51 JOB PERFORMANCE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	4.2		40.0	43.2	64.5	47.5	30.4	70.2	34.1		38.1	3.8
3	4.2		33.3	40.5	35.5	30.0	25.0	10.6	38.6		4.8	11.5
2	4.2		6.7	5.4		5.0	7.1	8.5	9.1		9.5	7.7
1				8.1				2.1			4.8	3.8
0	87.5	100.0	20.0	2.7		17.5	37.5	8.5	18.2	100.0	42.9	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.38	0.00	2.73	3.14	3.65	2.90	2.11	3.32	2.71	0.00	1.91	0.69
SD	1.06	0.00	1.51	1.03	0.49	1.46	1.73	1.25	1.42	0.00	1.87	1.26

ITEM 52 WORK HABITS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	8.3		33.3	62.2	67.7	47.5	46.4	57.4	54.5		23.8	11.5
4			26.7	2.7	16.1	17.5	7.1	8.5	13.6		28.6	11.5
3			10.0	8.1	9.7	10.0	1.8	4.3	9.1		4.8	
2			3.3	8.1			3.6	4.3	2.3			3.8
1				5.4		2.5	1.8	10.6	2.3			
0	91.7	100.0	26.7	13.5	6.5	22.5	39.3	14.9	18.2	100.0	42.9	73.1
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	0.42	0.00	3.10	3.68	4.32	3.40	2.75	3.53	3.61	0.00	2.48	1.12
SD	1.41	0.00	2.04	1.92	1.33	2.04	2.37	2.00	1.94	0.00	2.25	1.95

ITEM 53 INITIATIVE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	45.8		20.0	29.7		5.0	1.8	27.7			19.0	
2	25.0		30.0	51.4	74.2	27.5	28.6	48.9	4.5	17.4	33.3	26.9
1	25.0	18.2	46.7	18.9	25.8	45.0	57.1	23.4	72.7	43.5	47.6	38.5
0	4.2	81.8	3.3			22.5	12.5		22.7	39.1		34.6
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.13	0.18	1.67	2.11	1.74	1.15	1.20	2.04	0.82	0.78	1.71	0.92
SD	0.95	0.40	0.84	0.70	0.45	0.83	0.67	0.72	0.50	0.74	0.78	0.80

TABLE 53

ITEM 54 PASSIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
6	16.7		26.7	32.4	38.7	17.5	12.5	27.7	2.3	4.3	4.8	3.8
5	16.7		33.3	29.7	22.6	10.0	23.2	38.3	18.2	4.3	47.6	
4	16.7	18.2	13.3	18.9	25.8	20.0	7.1	17.0	38.6	8.7	19.0	7.7
3	29.2	36.4	10.0	8.1	12.9	35.0	8.9	8.5	18.2	17.4	19.0	
2	16.7	27.3	3.3	10.8		10.0	10.7	4.3	18.2	34.8	9.5	26.9
1			13.3			12.5	16.1	4.3	4.5	26.1		19.2
0	4.2	18.2				5.0	21.4			4.3		42.3
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.71	2.36	4.30	4.65	4.87	3.42	2.84	4.64	3.54	2.30	4.19	1.27
SD	1.57	1.33	1.68	1.32	1.09	1.77	2.21	1.33	1.19	1.43	1.12	1.54

TABLE 54

ITEM 55 ATTENTION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	45.8		13.3	54.1		10.0	19.7	31.9	2.3		19.0	
3	12.5		46.7	35.1	48.4	17.5	33.9	46.8	18.2		23.8	
2	20.8		30.0	5.4	41.9	22.5	17.9	14.9	29.5	8.7	23.8	30.8
1	16.7	45.5	6.7	2.7	9.7	32.5	21.4	4.3	45.5	26.1	14.3	23.1
0	4.2	54.5	3.3	2.7		17.5	7.1	2.1	4.5	65.2	19.0	46.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.79	0.45	2.60	3.35	2.39	1.70	2.39	3.02	1.68	0.43	2.09	0.85
SD	1.32	0.51	0.93	0.92	0.67	1.24	1.26	0.92	0.91	0.66	1.41	0.88

TABLE 55

ITEM 56 PERSISTENCE ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	33.3		50.0	59.5	12.9	30.0	41.1	53.2	13.6		4.8	3.8
3	20.8	4.5	10.0	16.2	32.3	10.0	12.5	12.8	4.5		14.3	3.8
2	12.5	45.5	10.0	8.1	29.0	17.5	16.1	14.9	31.8	21.7	19.0	3.8
1	8.3	31.8	30.0	10.8	16.1	32.5	10.7	10.6	45.5	52.2	42.9	11.5
0	25.0	18.2		5.4	9.7	10.0	19.6	8.5	4.5	26.1	19.0	76.9
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.29	1.36	2.80	3.13	2.23	2.17	2.45	2.91	1.77	0.96	1.43	0.46
SD	1.63	0.85	1.35	1.27	1.17	1.43	1.58	1.38	1.10	0.71	1.12	1.03

TABLE 56

ITEM 57 LEISURE TIME ACTIVITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	16.7		20.0	43.2	6.5	5.0			2.3			
2	29.2		3.3	16.2	25.8	12.5	5.4	4.3	4.5		9.5	7.7
1	45.8		66.7	35.1	61.3	40.0	69.6	89.4	79.5	17.4	71.4	23.1
0	8.3	100.0	10.0	5.4	6.5	42.5	25.0	6.4	13.6	82.6	19.0	69.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.54	0.00	1.33	1.97	1.32	0.80	0.80	0.98	0.95	0.17	0.90	0.38
SD	0.88	0.00	0.92	1.01	0.70	0.85	0.52	0.33	0.53	0.39	0.54	0.64

TABLE 57

ITEM 58 PERSONAL BELONGINGS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	8.3		23.3	32.4	25.8	10.0	16.1	23.4	6.8		14.3	
2	37.5		43.3	32.4	61.3	37.5	33.9	48.9	22.7	4.3	57.1	15.4
1	41.7		30.0	21.6	9.7	25.0	30.4	21.3	50.0	26.1	19.0	15.4
0	12.5	100.0	3.3	13.5	3.2	27.5	19.6	6.4	20.5	69.6	9.5	69.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.42	0.00	1.87	1.84	2.10	1.30	1.46	1.89	1.16	0.35	1.76	0.46
SD	0.83	0.00	0.82	1.04	0.70	0.99	0.99	0.84	0.83	0.57	0.83	0.76

TABLE 58

ITEM 59 GENERAL RESPONSIBILITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3			3.3	10.8	12.9	7.5	10.7	2.1				
2	41.7		60.0	64.9	61.3	37.5	41.1	44.7	15.9	4.3	23.8	3.8
1	29.2		33.3	13.5	25.8	25.0	25.0	38.3	54.5	13.0	28.6	19.2
0	29.2	100.0	3.3	10.8		30.0	23.2	14.9	29.5	82.6	47.6	76.9
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.13	0.00	1.63	1.76	1.87	1.23	1.39	1.34	0.86	0.22	0.76	0.27
SD	0.85	0.00	0.62	0.80	0.62	0.97	0.97	0.76	0.67	0.52	0.83	0.53

TABLE 59

ITEM 60 COOPERATION ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
2	41.7		30.0	27.0	29.0	12.5	21.4	4.3		8.7	23.8	3.8
1	45.8	13.6	46.7	62.0	64.5	50.0	35.7	70.2	68.2	21.7	38.1	50.0
0	12.5	86.4	23.3	10.8	6.5	37.5	42.9	25.5	31.8	69.6	38.1	46.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.29	0.14	1.07	1.16	1.23	0.75	0.79	0.79	0.68	0.39	0.86	0.58
SD	0.69	0.35	0.74	0.60	0.56	0.67	0.78	0.51	0.47	0.66	0.79	0.58

TABLE 60

ITEM 61 CONSIDERATION FOR OTHERS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	20.8		33.3	35.1	32.3	5.0	3.6	4.3	2.3		23.8	
3	12.5		10.0	29.7	12.9	2.5	12.5	4.3	2.3		9.5	
2	29.2		16.7	16.2	9.7	15.0	14.3	8.5	13.6	13.0	28.6	3.8
1	16.7		6.7	5.4	12.9	20.0	25.0	19.1	11.4	13.0	14.3	11.5
0	20.8	100.0	33.3	13.5	32.3	57.5	44.6	63.8	70.5	73.9	23.8	84.6
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.96	0.00	2.03	2.68	2.00	0.78	1.05	0.66	0.55	0.39	1.95	0.19
SD	1.43	0.00	1.71	1.38	1.71	1.12	1.20	1.09	0.98	0.72	1.50	0.49

ITEM 62 AWARENESS OF OTHERS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	54.2		66.7	83.8	3.2	52.5	32.1	42.6	4.5		33.3	30.8
4	37.5		16.7	2.7	83.9	32.5	21.4	36.2	6.8	4.3		7.7
3	4.2	4.5	10.0	10.8	9.7	7.5	25.0	19.1	56.8	8.7	42.9	34.6
2	4.2	50.0	6.7	2.7	3.2	7.5	12.5	2.1	25.0	34.8	23.8	26.9
1		27.3					8.9		6.8	21.7		
0		18.2								30.4		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	4.42	1.41	4.43	4.68	4.87	4.30	3.55	4.19	2.77	1.35	3.43	3.42
SD	0.78	0.85	0.94	0.78	0.50	0.91	1.31	0.83	0.86	1.15	1.21	1.21

TABLE 62

ITEM 63 INTERACTION WITH OTHERS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	41.7		33.3	32.4	38.7	10.0	8.9	34.0		8.7	14.3	7.7
2	41.7	13.6	53.3	54.1	51.6	40.0	33.9	48.9	22.7	13.0	61.9	26.9
1	12.5	18.2	13.3	10.8	6.5	32.5	30.4	14.9	47.7	17.4	19.0	26.9
0	4.2	68.2		2.7	3.2	17.5	26.8	2.1	29.5	60.9	4.8	38.5
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.21	0.46	2.20	2.16	2.26	1.43	1.25	2.17	0.93	0.70	1.86	1.04
SD	0.83	0.74	0.66	0.73	0.73	0.90	0.96	0.79	0.73	1.02	0.73	1.00

TABLE 63

ITEM 64 PARTICIPATION IN GROUP ACTIVITIES ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
3	25.0		13.3	24.3								
2	37.5	4.5	43.3	35.1	32.3	15.0	21.4	34.0	11.4	13.0	52.4	
1	33.3	22.7	30.0	32.4	48.4	55.0	48.2	40.4	43.2	17.4	42.9	50.0
0	4.2	72.7	13.3	8.1	19.4	30.0	30.4	25.5	45.5	69.6	4.8	50.0
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	1.83	0.32	1.57	1.76	1.13	0.85	0.91	1.09	0.66	0.44	1.48	0.50
SD	0.87	0.57	0.90	0.93	0.72	0.66	0.72	0.78	0.68	0.73	0.60	0.51

ITEM 65 SELFISHNESS ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
4	33.3	4.5	30.0	54.1	35.5	22.5	30.4	25.5	27.3	8.7	14.3	
3	20.8	9.1	50.0	27.0	25.8	35.0	23.2	27.7	22.7	4.3	33.3	11.5
2	25.0	59.1	16.7	8.1	32.3	17.5	32.1	23.4	27.3	30.4	28.6	50.0
1	8.3	13.6	3.3	8.1	3.2	20.0	12.5	21.3	22.7	21.7	23.8	19.2
0	12.5	13.6		2.7	3.2	5.0	1.8	2.1		34.8		19.2
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	2.54	1.77	3.07	3.22	2.87	2.50	2.68	2.53	2.55	1.30	2.38	1.54
SD	1.38	0.97	0.79	1.08	1.06	1.20	1.10	1.16	1.13	1.26	1.02	0.95

TABLE 65

ITEM 66 SOCIAL MATURITY ABS PART 1												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
SCORE	%	%	%	%	%	%	%	%	%	%	%	%
5	33.3	13.6	70.0	67.6	58.1	60.0	67.9	68.1	72.7	65.2	47.6	38.5
4	25.0		13.3	21.6	19.4	22.5	25.0	23.4	11.4	13.0	23.8	34.6
3	25.0		10.0	10.8	6.5	7.5	3.6	8.5	11.4	4.3	9.5	11.5
2	8.3	13.6	6.7		12.9	7.5	1.8		2.3	8.7	4.8	3.8
1	8.3	13.6			3.2	2.5	1.8		2.3	4.3	14.3	11.5
0		59.1								4.3		
TOTAL	24	22	30	37	31	40	56	47	44	23	21	26
MEAN	3.67	1.09	4.47	4.57	4.16	4.30	4.55	4.60	4.50	4.13	3.86	3.85
SD	1.27	1.74	0.94	0.69	1.21	1.07	0.81	0.65	0.95	1.49	1,46	1.32

APPENDIX J

ADAPTIVE BEHAVIOR SCALE PART II ITEM SCORES

TABLE 1

ITEM 1 THREATENS OR DOES PHYSICAL VIOLENCE ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	33.3	77.3	33.3	45.9	77.4	45.0	67.9	40.4	45.5	17.4	33.3	38.5
MEAN	3.96	0.64	3.23	1.57	0.71	2.50	1.16	2.25	2.16	3.96	3.38	2.54
S.D.	3.72	1.79	3.17	2.68	1.83	3.17	2.55	2.75	2.61	3.35	3.53	2.50
MEDIAN	3.50	0.15	2.75	0.67	0.15	0.90	0.24	1.14	1.50	3.37	2.00	2.00
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-10	0-8	0-10	0-13	0-8	0-14	0-14	0-9	0-9	0-12	0-10	0-7
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 2

ITEM 2 DAMAGES PERSONAL PROPERTY ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	62.5	4.5	73.3	86.5	93.5	82.5	82.1	80.9	84.1	30.4	33.3	30.8
MEAN	0.62	1.91	0.37	0.22	0.06	0.40	0.25	0.34	0.32	0.87	1.09	1.23
S.D.	0.97	0.97	0.81	0.58	0.25	0.98	0.58	0.98	0.88	0.76	1.18	1.18
MEDIAN	0.30	1.86	0.18	0.08	0.03	0.11	0.11	0.12	0.09	0.85	0.89	1.06
MODE	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
RANGE	0-3	0-4	0-4	0-2	0-1	0-4	0-2	0-6	0-4	0-3	0-4	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 3

ITEM 3 DAMAGES OTHERS' PROPERTY ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	66.7	40.9	90.0	89.2	93.5	87.5	98.2	91.5	93.2	56.5	57.1	80.8
MEAN	0.58	1.77	0.13	0.22	0.06	0.27	0.02	0.15	0.14	0.52	0.76	0.23
S.D.	0.93	2.04	0.43	0.67	0.25	0.90	0.13	0.62	0.55	0.66	1.04	0.51
MEDIAN	0.25	1.50	0.06	0.06	0.03	0.07	0.01	0.05	0.04	0.38	0.37	0.12
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-3	0-6	0-2	0-3	0-1	0-5	0-1	0-4	0-3	0-2	0-3	0-2
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 4

ITEM 4 DAMAGES PUBLIC PROPERTY ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	41.7	68.2	43.3	81.1	87.1	70.0	89.3	83.0	84.1	60.9	71.4	61.5
MEAN	1.04	0.73	0.87	0.38	0.23	0.75	0.25	0.34	0.25	0.70	0.57	0.88
S.D.	1.12	1.20	0.94	0.92	0.67	1.41	1.12	0.98	0.65	1.02	0.98	1.39
MEDIAN	0.83	0.23	0.70	0.12	0.07	0.21	0.06	0.10	0.09	0.32	0.20	0.31
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-3	0-3	0-4	0-3	0-5	0-8	0-5	0-3	0-3	0-3	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 5

ITEM 5 HAS VIOLENT TEMPER OR TEMPER TANTRUMS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	54.2	40.9	50.0	75.7	67.7	55.0	85.7	70.2	72.7	30.4	47.6	46.2
MEAN	1.42	1.36	1.07	0.59	0.58	0.97	0.45	0.66	0.70	2.26	1.29	1.08
S.D.	2.06	1.79	1.28	1.28	0.96	1.33	1.25	1.34	1.27	2.09	1.82	1.20
MEDIAN	0.42	0.83	0.50	0.16	0.24	0.41	0.08	0.21	0.19	2.00	0.62	0.70
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-6	0-4	0-6	0-3	0-4	0-5	0-7	0-4	0-7	0-6	0-3
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 6 TEASES OR GOSSIPS ABOUT OTHERS ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	29.2	81.8	26.7	35.1	29.0	50.0	62.5	57.4	54.5	91.3	47.6	50.0
MEAN	2.00	0.23	2.73	2.57	2.13	1.80	1.18	1.02	0.93	0.09	2.62	1.04
S.D.	1.86	0.53	2.61	2.35	2.28	2.37	1.96	1.48	1.34	0.29	3.43	1.48
MEDIAN	1.70	0.11	1.83	2.58	1.31	0.50	0.30	0.37	0.42	0.05	0.75	0.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-2	0-9	0-7	0-7	0-10	0-7	0-5	0-6	0-1	0-9	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 7

ITEM 7 BOSSES AND MANIPULATES OTHERS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	25.0	72.7	43.3	43.2	51.6	65.0	67.9	59.6	50.0	39.1	52.4	69.2
MEAN	2.33	0.45	2.57	2.22	1.77	1.25	0.95	1.02	0.89	1.83	2.76	0.88
S.D.	2.12	0.91	3.16	2.82	2.30	2.24	1.73	1.52	1.38	1.95	3.82	1.75
MEDIAN	1.50	0.19	0.90	1.12	0.47	0.27	0.24	0.34	0.50	1.12	0.45	0.22
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-3	0-10	0-10	0-7	0-10	0-7	0-6	0-6	0-6	0-9	0-7
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 8

ITEM 8 DISRUPTS OTHERS' ACTIVITIES ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	37.5	63.6	56.7	67.6	80.6	67.5	83.9	78.7	79.5	52.2	47.6	50.0
MEAN	1.42	0.86	0.97	0.95	0.32	0.57	0.36	0.43	0.34	1.26	1.48	0.81
S.D.	1.74	1.64	1.45	1.76	0.70	1.20	0.96	1.02	0.80	1.84	1.86	0.94
MEDIAN	0.87	0.29	0.38	0.24	0.12	0.24	0.10	0.13	0.13	0.46	0.67	0.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-7	0-5	0-7	0-2	0-6	0-4	0-5	0-4	0-7	0-6	0-3
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 9

ITEM 9 IS INCONSIDERATE OF OTHERS . ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	25.0	77.3	50.0	56.8	61.3	65.0	69.6	59.6	79.5	65.2	61.9	42.3
MEAN	1.67	0.41	1.13	1.43	0.64	0.57	0.62	0.72	0.23	0.70	1.52	0.96
S.D.	1.58	0.85	1.59	2.58	1.33	0.96	1.17	1.15	0.48	1.18	2.36	1.04
MEDIAN	1.25	0.15	0.50	0.38	0.32	0.27	0.22	0.34	0.13	0.27	0.31	0.79
MODE	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-3	0-5	0-10	0-7	0-4	0-5	0-5	0-2	0-4	0-7	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 10 SHOWS DISRESPECT FOR OTHERS' PROPERTY ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	20.8	72.7	60.0	67.6	90.3	50.0	78.6	85.1	88.6	69.6	57.1	26.9
MEAN	2.29	0.64	1.07	1.40	0.32	1.12	0.57	0.47	0.20	0.30	1.57	2.31
S.D.	1.85	1.22	1.55	2.45	1.08	1.87	1.33	1.30	0.63	0.47	2.16	2.66
MEDIAN	2.00	0.19	0.33	0.24	0.05	0.50	0.14	0.09	0.06	0.22	0.37	1.36
MODE	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-4	0-4	0-8	0-5	0-10	0-5	0-5	0-3	0-1	0-6	0-9
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 11

ITEM 11 USES ANGRY LANGUAGE ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	37.5	95.5	30.0	35.1	67.7	40.0	71.4	40.4	61.4	87.0	47.6	61.5
MEAN	2.08	0.04	2.70	2.38	0.84	2.15	1.11	1.81	0.95	0.13	2.43	1.08
S.D.	2.22	0.21	2.52	2.37	1.79	2.22	2.12	1.88	1.40	0.34	2.96	1.67
MEDIAN	1.25	0.02	2.50	1.87	0.24	1.70	0.20	1.14	0.31	0.07	1.00	0.31
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-1	0-8	0-8	0-7	0-7	0-8	0-5	0-4	0-1	0-8	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 12

ITEM 12 IGNORES REGULATIONS OR REGULAR ROUTINES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	20.8	13.6	26.7	35.1	67.7	30.0	71.4	48.9	90.9	34.8	33.3	19.2
MEAN	1.79	2.09	1.83	1.84	0.68	2.22	0.82	1.60	0.18	1.17	1.90	2.00
S.D.	1.47	1.63	1.51	2.10	1.22	2.03	1.58	2.00	0.58	1.19	1.89	1.39
MEDIAN	1.37	1.39	1.87	1.19	0.24	2.07	0.20	0.58	0.10	0.94	1.62	2.00
MODE	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
RANGE	0-4	0-5	0-6	0-8	0-5	0-8	0-6	0-6	0-2	0-4	0-6	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 13

ITEM 13 RESISTS FOLLOWING INSTRUCTIONS, REQUESTS OR ORDERS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	33.3	40.9	20.0	35.1	32.3	35.0	57.1	36.2	77.3	30.4	28.6	42.3
MEAN	1.25	3.04	2.27	2.70	1.84	2.90	1.70	2.00	0.41	2.26	2.86	2.50
S.D.	1.29	3.46	2.38	2.84	2.07	3.00	2.60	2.38	0.92	2.05	2.39	3.24
MEDIAN	1.00	1.83	1.64	2.12	1.19	2.50	0.37	1.15	0.15	2.25	2.75	0.83
MODE	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-5	0-10	0-11	0-9	0-7	0-12	0-10	0-9	0-4	0-6	0-7	0-11
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 14

ITEM 14 HAS IMPUDENT OR REBELLIOUS ATTITUDE TOWARD AUTHORITY ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	75.0	77.3	60.0	62.2	74.2	45.0	82.1	66.0	100.0	87.0	66.7	92.3
MEAN	0.46	0.23	0.83	1.40	0.35	1.77	0.41	0.81	0.00	0.13	0.81	0.19
S.D.	0.98	0.43	1.49	2.25	0.71	2.26	1.09	1.55	0.00	0.34	1.40	0.69
MEDIAN	0.17	0.15	0.33	0.30	0.17	0.83	0.11	0.26	0.00	0.07	0.25	0.04
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-1	0-7	0-7	0-3	0-8	0-5	0-8	0-0	0-1	0-4	0-3
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 15 IS ABSENT FROM, OR LATE FOR, THE PROPER ASSIGNMENTS OR PLACES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	54.2	100.0	53.3	40.5	64.5	55.0	58.9	61.7	93.2	73.9	38.1	50.0
MEAN	1.67	0.00	1.17	2.65	1.00	1.57	1.04	1.68	0.14	0.52	1.19	1.19
S.D.	2.44	0.00	1.70	2.83	1.91	2.35	1.54	2.47	0.63	1.08	1.33	1.52
MEDIAN	0.42	0.00	0.44	2.00	0.27	0.41	0.35	0.31	0.04	0.18	0.92	0.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-0	0-6	0-9	0-7	0-8	0-5	0-8	0-4	0-4	0-5	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 16

ITEM 16 RUNS AWAY OR ATTEMPTS TO RUN AWAY ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	79.2	77.3	73.3	83.8	93.5	77.5	91.1	91.5	100.0	82.6	100.0	88.5
MEAN	0.50	1.00	0.37	0.22	0.06	0.47	0.18	0.19	0.00	0.43	0.00	0.35
S.D.	1.32	2.00	0.67	0.53	0.25	0.99	0.64	0.71	0.00	1.16	0.00	1.23
MEDIAN	0.13	0.15	0.18	0.10	0.03	0.14	0.05	0.05	0.00	0.10	0.00	0.06
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-6	0-2	0-2	0-1	0-3	0-3	0-4	0-0	0-5	0-0	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 17

ITEM 17 MISBEHAVES IN GROUP SETTINGS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	41.7	59.1	80.0	54.1	61.3	52.5	69.6	74.5	90.9	60.9	61.9	46.2
MEAN	1.33	1.14	0.47	1.05	0.84	1.12	0.73	0.47	0.11	0.70	0.62	1.15
S.D.	1.66	1.75	1.07	1.61	1.46	1.65	1.55	0.97	0.39	1.02	0.86	1.43
MEDIAN	0.90	0.35	0.12	0.42	0.32	0.45	0.22	0.17	0.05	0.32	0.31	0.67
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-6	0-4	0-7	0-5	0-6	0-7	0-4	0-2	0-3	0-2	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 18

ITEM 18 TAKES OTHERS' PROPERTY WITHOUT PERMISSION ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	58.3	81.8	73.3	62.2	83.9	75.0	80.4	70.2	86.4	91.3	61.9	57.7
MEAN	0.87	0.50	0.80	1.38	0.45	1.00	0.54	0.60	0.39	0.09	0.95	0.96
S.D.	1.70	1.18	1.81	2.18	1.29	2.07	1.36	1.12	1.04	0.29	1.69	1.45
MEDIAN	0.36	0.11	0.18	0.30	0.10	0.17	0.12	0.21	0.08	0.05	0.31	0.37
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-4	0-8	0-8	0-6	0-8	0-6	0-4	0-4	0-1	0-6	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 19

ITEM 19 LIES OR CHEATS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	58.3	100.0	53.3	32.4	61.3	52.5	76.8	63.8	77.3	100.0	61.9	80.8
MEAN	1.79	0.00	1.77	3.24	1.39	2.35	0.73	1.13	0.43	0.00	1.81	0.61
S.D.	2.54	0.00	2.65	2.66	2.04	2.77	1.51	1.82	0.97	0.00	2.68	1.55
MEDIAN	0.36	0.00	0.44	3.75	0.32	0.45	0.15	0.28	0.15	0.00	0.31	0.12
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-9	0-0	0-10	0-9	0-6	0-8	0-5	0-6	0-4	0-0	0-9	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 20

ITEM 20 IS INACTIVE ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	83.3	22.7	63.3	59.5	61.3	40.0	69.6	38.3	45.5	21.7	33.3	26.9
MEAN	0.29	3.45	0.63	1.19	0.58	1.30	0.77	1.32	0.89	1.87	1.90	1.73
S.D.	0.75	3.13	1.10	2.04	0.92	1.71	1.41	1.53	1.02	1.69	1.73	1.71
MEDIAN	0.10	2.25	0.29	0.34	0.32	0.79	0.22	0.89	0.65	1.31	2.00	1.25
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
RANGE	0-3	0-9	0-4	0-7	0-4	0-6	0-6	0-6	0-4	0-5	0-5	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 21

ITEM 21 IS WITHDRAWN ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	87.5	31.8	86.7	67.6	83.9	75.0	73.2	76.6	86.4	47.8	66.7	34.6
MEAN	0.21	2.77	0.27	0.95	0.35	0.55	0.61	0.47	0.18	2.04	0.67	2.54
S.D.	0.66	2.74	0.83	1.68	0.91	1.18	1.46	1.10	0.49	2.93	1.11	2.70
MEDIAN	0.07	2.00	0.08	0.24	0.10	0.17	0.18	0.15	0.08	0.62	0.25	1.30
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-3	0-9	0-4	0-7	0-4	0-4	0-7	0-6	0-2	0-10	0-3	0-8
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 22

ITEM 22 IS SHY ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	79.2	27.3	66.7	45.9	61.3	65.0	62.5	63.8	52.3	21.7	42.9	42.3
MEAN	0.50	2.36	0.63	1.13	0.90	0.52	0.93	1.02	0.75	1.65	1.38	1.73
S.D.	1.35	2.10	1.22	1.44	1.27	0.88	1.44	1.57	0.99	1.19	1.53	2.07
MEDIAN	0.13	2.00	0.25	0.69	0.32	0.27	0.30	0.28	0.46	1.79	1.00	0.83
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
RANGE	0-6	0-6	0-5	0-5	0-4	0-4	0-5	0-5	0-4	0-5	0-5	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 23

ITEM 23 HAS STEREOTYPED BEHAVIOURS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	58.3	4.5	83.3	75.7	93.5	82.5	91.1	78.7	81.8	21.7	47.6	26.9
MEAN	1.37	5.59	0.40	0.84	0.06	0.45	0.18	0.34	0.54	2.35	1.33	3.65
S.D.	2.06	3.16	1.10	1.76	0.25	1.08	0.64	0.73	1.66	1.80	1.68	3.37
MEDIAN	0.36	5.00	0:10	0.16	0.03	0.11	0.05	0.13	0.11	2.25	0.67	3.00
MODE	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
RANGE	0-6	0-12	0-5	0-6	0-1	0-5	0-3	0-3	0-9	0-6	0-6	0-10
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 24 HAS PECULIAR POSTURE OR ODD MANNERISMS ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	75.0	36.4	90.0	86.5	100.0	95.0	94.6	91.5	95.5	78.3	90.5	69.2
MEAN	0.29	1.23	0.13	0.22	0.00	0.07	0.11	0.08	0.07	0.52	0.09	0.46
S.D.	0.55	1.19	0.43	0.58	0.00	0.35	0.49	0.28	0.33	1.12	0.30	0.90
MEDIAN	0.17	1.10	0.06	0.08	0.00	0.03	0.03	0.05	0.02	0.14	0.05	0.22
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-2	0-4	0-2	0-2	0-0	0-2	0-3	0-1	0-2	0-4	0-1	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 25

ITEM 25 HAS INAPPROPRIATE INTERPERSONAL MANNERS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	45.8	54.5	80.0	83.8	87.1	85.0	60.7	68.1	59.1	65.2	57.1	42.3
MEAN	1.46	1.23	0.40	0.24	0.26	0.25	0.89	0.57	0.48	0.74	1.33	1.46
S.D.	2.24	1.77	1.16	0.64	0.77	0.74	1.50	1.06	0.66	1.10	2.20	1.55
MEDIAN	0.64	0.42	0.12	0.10	0.07	0.09	0.32	0.23	0.35	0.27	0.37	1.00
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-9	0-6	0-6	0-3	0-3	0-4	0-7	0-5	0-3	0-3	0-9	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 26

ITEM 26 HAS DISTURBING VOCAL OR SPEECH HABITS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	41.7	27.3	70.0	48.6	67.7	60.0	66.1	66.0	75.0	26.1	33.3	15.4
MEAN	1.58	1.36	1.23	1.57	0.39	0.62	0.96	0.72	0.45	1.70	2.38	3.50
S.D.	1.77	1.22	2.53	2.11	0.61	0.90	2.07	1.15	0.93	1.66	2.64	2.63
MEDIAN	1.00	1.21	0.21	0.58	0.24	0.33	0.26	0.26	0.17	1.19	1.37	3.00
MODE	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00
RANGE	0-5	0-4	0-10	0-7	0-2	0-3	0-10	0-4	0-4	0-5	0-8	0-8
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 27

ITEM 27 HAS STRANGE AND UNACCEPTABLE HABITS ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	45.8	36.4	73.3	73.0	100.0	72.5	53.6	55.3	68.2	52.2	38.1	42.3
MEAN	1.33	1.86	0.40	0.70	0.00	0.42	1.02	0.96	0.50	1.35	1.81	1.69
S.D.	2.04	2.08	0.77	1.51	0.00	0.93	1.37	1.49	0.95	2.10	2.23	1.81
MEDIAN	0.64	1.67	0.18	0.18	0.00	0.19	0.43	0.40	0.23	0.46	1.00	1.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-8	0-3	0-6	0-0	0-5	0-5	0-6	0-5	0-8	0-7	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 28 HAS UNACCEPTABLE ORAL HABITS ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	75.0	36.4	73.3	64.9	83.9	85.0	85.7	70.2	86.4	47.8	42.9	57.7
MEAN	0.87	3.04	0.43	0.46	0.23	0.27	0.30	0.64	0.16	1.48	1.14	1.15
S.D.	2.05	3.14	0.82	0.73	0.62	0.75	0.85	1.33	0.43	1.75	1.53	2.09
MEDIAN	0.17	2.50	0.18	0.27	0.10	0.09	0.08	0.21	0.08	0.75	0.69	0.37
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-10	0-3	0-3	0-3	0-3	0-4	0-7	0-2	0-6	0-5	0-9
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 28

TABLE 29

ITEM 29 REMOVES OR TEARS OFF OWN CLOTHING ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	87.5	36.4	83.3	91.9	100.0	80.0	94.6	85.1	81.8	56.5	71.4	61.5
MEAN	0.21	1.50	0.20	0.19	0.00	0.77	0.11	0.34	0.27	1.09	0.71	1.00
S.D.	0.66	1.99	0.48	0.84	0.00	1.95	0.49	1.24	0.66	1.53	1.52	1.77
MEDIAN	0.07	1.10	0.10	0.04	0.00	0.12	0.03	0.09	0.11	0.38	0.20	0.31
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-3	0-9	0-2	0-5	0-0	0-8	0-3	0-8	0-3	0-5	0-5	0-7
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 30

ITEM 30 HAS OTHER ECCENTRIC HABITS AND TENDENCIES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	70.8	22.7	93.3	83.8	87.1	92.5	85.7	93.6	68.2	52.2	42.9	53.8
MEAN	0.50	2.00	0.17	0.40	0.13	0.15	0.20	0.08	0.36	1.26	1.05	1.00
S.D.	0.93	1.66	0.75	1.21	0.34	0.58	0.52	0.35	0.57	2.07	1.20	1.44
MEDIAN	0.21	1.90	0.04	0.10	0.07	0.04	0.08	0.03	0.23	0.46	0.75	0.43
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-3	0-6	0-4	0-6	0-1	0-3	0-2	0-2	0-2	0-8	0-4	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 31 DOES PHYSICAL VIOLENCE TO SELF ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	62.5	31.8	76.7	75.7	100.0	77.5	85.7	89.4	88.6	21.7	42.9	23.1
MEAN	1.12	2.27	0.23	0.35	0.00	0.37	0.25	0.17	0.52	2.61	0.90	2.65
S.D.	1.75	2.80	0.43	0.72	0.00	0.92	0.69	0.52	1.72	2.50	0.99	2.64
MEDIAN	0.30	1.07	0.15	0.16	0.00	0.14	0.08	0.06	0.06	1.92	0.71	1.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
RANGE	0-5	0-10	0-1	0-3	0-0	0-5	0-3	0-2	0-9	0-7	0-3	0-9
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 31

TABLE 32

ITEM 32 HAS HYPERACTIVE TENDENCIES ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	54.2	27.3	60.0	45.9	61.3	75.0	71.4	66.0	84.1	43.5	42.9	26.9
MEAN	1.29	2.50	0.93	1.32	0.64	0.60	0.52	0.70	0.50	1.04	1.33	1.81
S.D.	2.03	2.13	1.51	1.89	0.91	1.24	1.04	1.16	1.37	1.26	1.83	1.60
MEDIAN	0.42	2.25	0.33	0.65	0.32	0.17	0.20	0.26	0.09	0.75	0.75	1.67
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-8	0-6	0-6	0-8	0-3	0-5	0-6	0-5	0-6	0-5	0-7	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 33

ITEM 33 ENGAGES IN INAPPROPRIATE MASTURBATION ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	83.3	90.9	100.0	100.0	100.0	95.0	92.9	95.7	97.7	95.7	95.2	65.4
MEAN	0.46	0.45	0.00	0.00	0.00	0.12	0.16	0.06	0.02	0.04	0.05	1.04
S.D.	1.10	1.50	0.00	0.00	0.00	0.56	0.60	0.32	1.15	0.21	0.22	1.66
MEDIAN	0.10	0.10	0.00	0.00	0.00	0.03	0.04	0.02	0.01	0.02	0.02	0.26
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-6	0-0	0-0	0-0	0-3	0-3	0-2	0-1	0-1	0-1	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 34

ITEM 34 EXPOSES BODY IMPROPERLY ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	70.8	77.3	96.7	100.0	100.0	90.0	87.5	95.7	93.2	87.0	76.2	73.1
MEAN	0.54	0.77	0.03	0.00	0.00	0.25	0.20	0.08	0.09	0.22	0.29	0.54
S.D.	1.02	1.85	0.18	0.00	0.00	0.84	0.58	0.46	0.36	0.67	0.56	0.95
MEDIAN	0.21	0.15	0.02	0.00	0.00	0.06	0.07	0.02	0.04	0.07	0.16	0.18
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-4	0-7	0-1	0-0	0-0	0-4	0-3	0-3	0-2	0-3	0-2	0-3
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 35 HAS HOMOSEXUAL TENDENCIES ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	87.5	100.0	80.0	91.9	96.8	87.5	66.1	48.9	97.7	95.7	95.2	84.6
MEAN	0.21	0.00	0.30	0.32	0.06	0.35	1.30	1.34	0.02	0.09	0.09	0.58
S.D.	0.59	0.00	0.70	1.18	0.36	0.97	2.24	1.66	0.15	0.42	0.44	1.50
MEDIAN	0.07	0.00	0.12	0.09	0.03	0.07	0.26	0.60	0.01	0.04	0.05	0.09
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-2	0-0	0-3	0-5	0-2	0-4	0-6	0-6	0-1	0-2	0-2	0-6
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 36 SEXUAL BEHAVIOUR THAT IS SOCIALLY UNACCEPTABLE ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	79.2	100.0	86.7	89.2	100.0	60.0	51.8	61.7	95.5	82.6	71.4	69.2
MEAN	0.50	0.00	0.13	0.24	0.00	0.72	1.87	0.60	0.07	0.22	0.71	0.61
S.D.	1.47	0.00	0.35	0.89	0.00	1.15	2.67	0.95	0.33	0.52	1.45	1.27
MEDIAN	0.13	0.00	0.08	0.06	0.00	0.33	0.47	0.31	0.02	0.10	0.20	0.22
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-7	0-0	0-1	0-5	0-0	0-5	0-10	0-4	0-2	0-2	0-5	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 37 TENDS TO OVERESTIMATE OWN ABILITIES ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	91.7	100.0	63.3	40.5	61.3	47.5	66.1	78.7	93.2	100.0	76.2	84.6
MEAN	0.12	0.00	0.73	1.73	0.90	1.05	0.54	0.49	0.11	0.00	0.48	0.27
S.D.	0.45	0.00	1.26	1.64	1.35	1.30	0.91	1.10	0.44	0.00	0.98	0.72
MEDIAN	0.04	0.00	0.29	1.75	0.32	0.64	0.26	0.13	0.04	0.00	0.16	0.09
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-2	0-0	0-4	0-5	0-4	0-5	0-4	0-5	0-2	0-0	0-3	0-3
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 38 REACTS POORLY TO CRITICISM ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	50.0	68.2	26.7	35.1	29.0	25.0	75.0	48.9	68.2	60.9	42.9	46.2
MEAN	1.17	0.45	1.57	1.62	2.13	1.75	0.55	1.15	0.36	0.43	1.09	1.27
S.D.	1.40	0.74	1.43	1.40	1.82	1.45	1.04	1.49	0.61	0.59	1.30	1.51
MEDIAN	0.50	0.23	1.28	1.81	2.37	1.61	0.17	0.55	0.23	0.32	0.75	0.75
MODE	0.00	0.00	1.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-5	0-2	0-6	0-5	0-7	0-5	0-4	0-5	0-3	0-2	0-4	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 39

ITEM 39 REACTS POORLY TO FRUSTRATION ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	41.7	40.9	43.3	40.5	35.5	35.0	62.5	46.8	52.3	39.1	28.6	50.0
MEAN	1.37	0.91	1.70	1.65	1.55	2.25	0.91	1.34	0.73	1.43	2.38	1.85
S.D.	1.66	1.02	1.80	1.95	1.57	2.24	1.43	1.72	1.00	1.47	2.08	2.11
MEDIAN	0.83	0.72	1.50	1.08	1.14	2.00	0.30	0.71	0.46	1.33	2.25	0.50
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-5	0-3	0-5	0-8	0-5	0-8	0-5	0-8	0-4	0-5	0-6	0-7
CASES	24	22	30	37	31	40	56	47	44	23	21	26

ITEM 40 DEMANDS EXCESSIVE ATTENTION OR PRAISE ABS PART II												
	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	54.2	77.3	33.3	35.1	58.1	47.5	85.7	72.3	59.1	65.2	57.1	61.5
MEAN	1.29	0.73	1.10	1.57	1.00	1.52	0.32	0.43	0.70	0.52	1.19	0.92
S.D.	1.73	1.42	1.09	1.62	1.37	1.96	0.88	0.83	1.02	0.95	1.63	1.32
MEDIAN	0.42	0.15	0.92	1.29	0.36	0.75	0.08	0.19	0.35	0.27	0.37	0.31
MODE	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-6	0-4	0-4	0-7	0-4	0-7	0-4	0-4	0-4	0-4	0-5	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 41

ITEM 41 SEEMS TO FEEL PERSECUTED ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	87.5	90.9	83.3	54.1	48.4	47.5	87.5	97.9	79.5	100.0	76.2	73.1
MEAN	0.17	0.09	0.63	1.86	1.68	2.07	0.27	0.02	0.36	0.00	0.57	0.58
S.D.	0.48	0.29	1.99	2.71	2.52	2.43	0.84	0.15	0.94	0.00	1.12	1.47
MEDIAN	0.07	0.05	0.10	0.42	0.60	0.75	0.07	0.01	0.13	0.00	0.16	0.18
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-2	0-1	0-10	0-9	0-11	0-8	0-4	0-1	0-5	0-0	0-3	0-7
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 42

ITEM 42 HAS HYPOCHONDRIACAL TENDENCIES ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	83.3	95.5	86.7	67.6	71.0	62.5	92.9	91.5	88.6	95.7	76.2	88.5
MEAN	0.17	0.04	0.23	0.43	0.74	0.62	0.16	0.13	0.20	0.04	0.29	0.27
S.D.	0.38	0.21	0.68	0.69	1.36	0.92	0.63	0.49	0.63	0.21	0.56	1.00
MEDIAN	0.10	0.02	0.08	0.24	0.20	0.30	0.04	0.05	0.06	0.02	0.16	0.06
MODE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RANGE	0-1	0-1	0-3	0-2	0-5	0-3	0-3	0-3	0-3	0-1	0-2	0-5
CASES	24	22	30	37	31	40	56	47	44	23	21	26

TABLE 43

ITEM 43 HAS OTHER SIGNS OF EMOTIONAL INSTABILITIES ABS PART II

	CHILD/ADOLESCENT			REHABILITATION			MEDIUM GRADE			LOW GRADE		
WARD	15	16	8A	7	GBNH	5	6	12	1	4	4A	11
%ZERO	66.7	54.5	83.3	45.9	38.7	45.0	66.1	80.9	63.6	26.1	52.4	46.2
MEAN	0.46	0.77	0.43	0.81	0.77	1.10	0.64	0.30	0.45	1.43	0.71	0.96
S.D.	0.88	1.19	1.36	1.13	0.76	1.39	1.15	0.66	0.70	1.27	0.90	1.18
MEDIAN	0.25	0.42	0.10	0.61	0.73	0.68	0.26	0.12	0.29	1.29	0.45	0.62
MODE	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
RANGE	0-4	0-5	0-7	0-6	0-3	0-5	0-5	0-2	0-3	0-5	0-3	0-4
CASES	24	22	30	37	31	40	56	47	44	23	21	26

APPENDIX K

ADAPTIVE BEHAVIOR SCALE PART I PROFILE SUMMARIES

Table 6.53 Ward 15 Child/Adolescent Unit

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

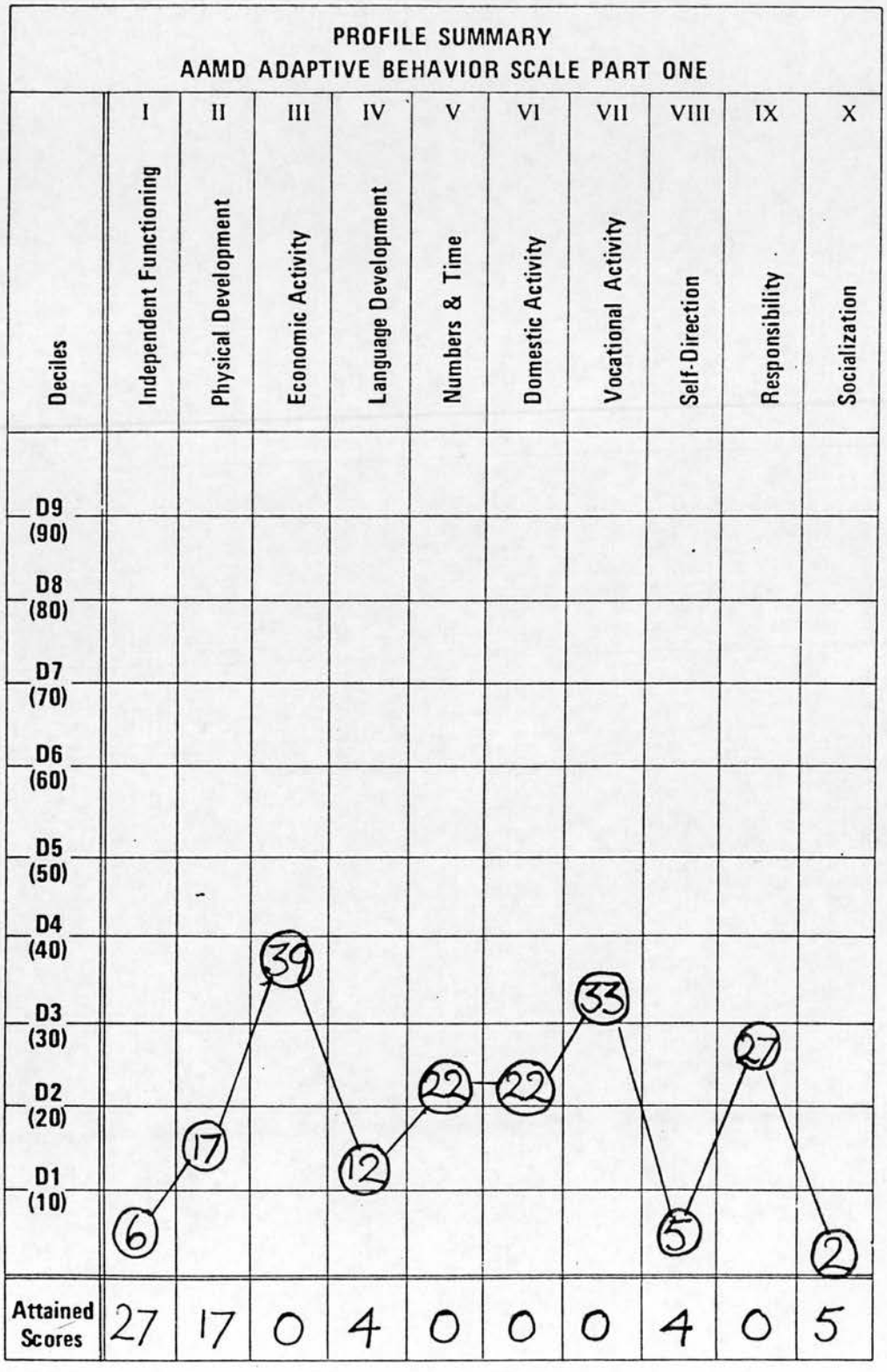
Deciles	I Independent Functioning	II Physical Development	III Economic Activity	IV Language Development	V Numbers & Time	VI Domestic Activity	VII Vocational Activity	VIII Self-Direction	IX Responsibility	X Socialization
D9 (90)										
D8 (80)										
D7 (70)			68			67				62
D6 (60)					58					
D5 (50)				50					50	
D4 (40)		42						43		
D3 (30)	36						33			
D2 (20)										
D1 (10)										
Attained Scores	72	22	6	22	6	8	0	12	2	18

Based on 458 persons in residential institutions.

Age: 13 - 17.

IQ: Mean = 44.2; SD = 21.1 Sex: Male and Female

Table 6.34 Ward 16 Child/Adolescent Unit



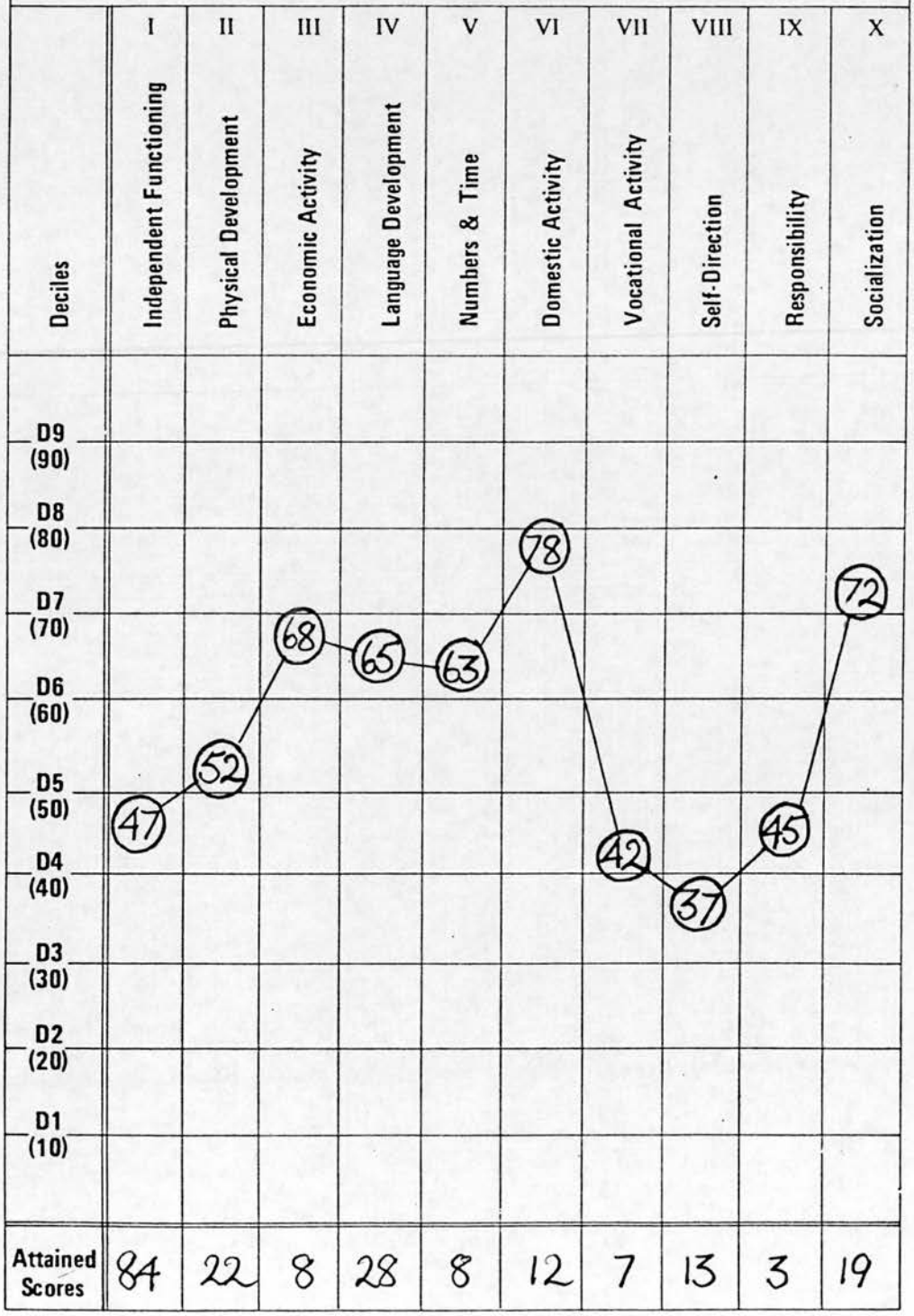
Based on 458 persons in residential institutions

Age: 13 - 17.

IQ: Mean = 44.2; SD = 21.1 Sex: Male and Female

Table 6.35 Ward 8A Child/Adolescent

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE



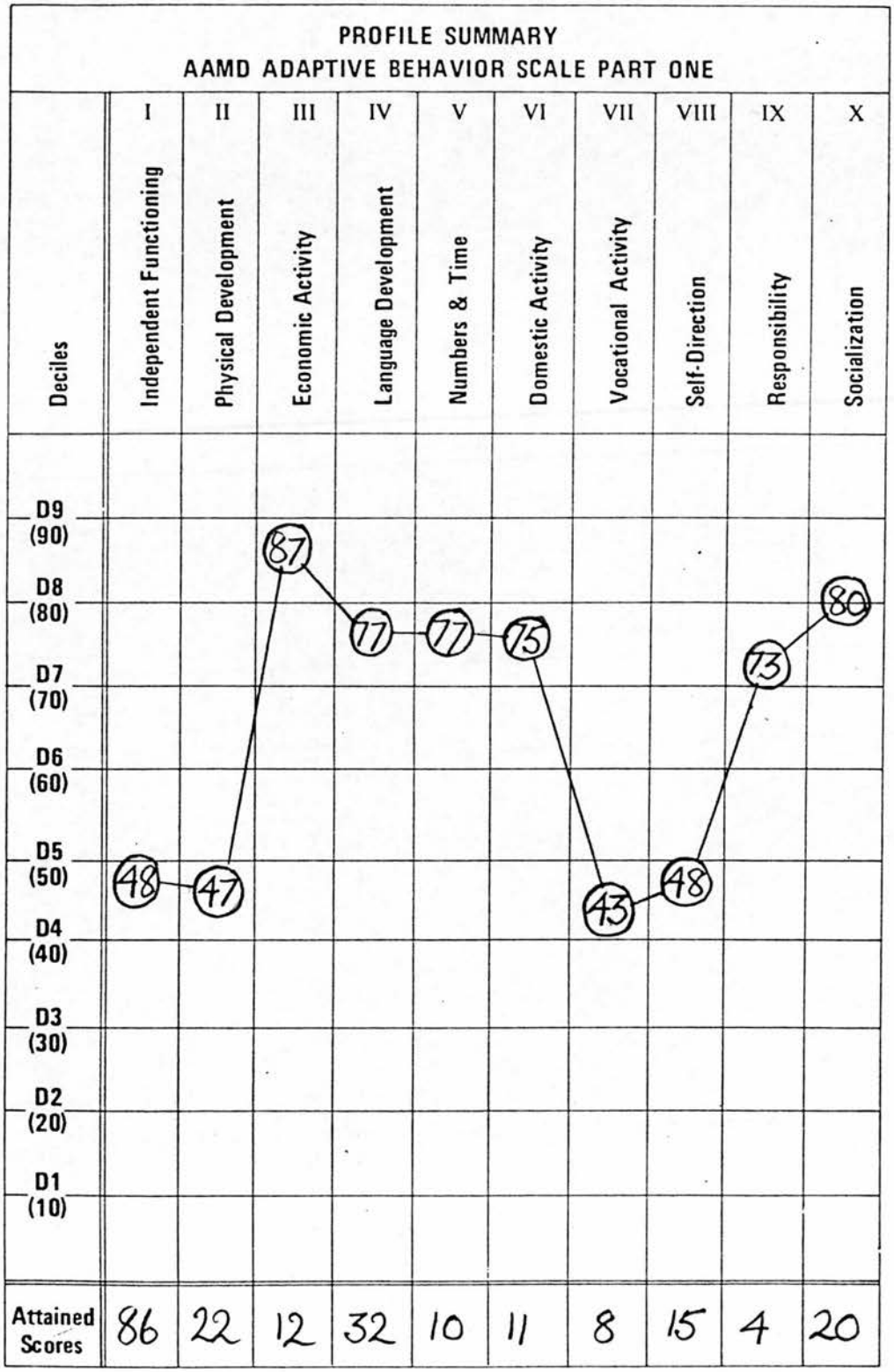
Attained Scores	84	22	8	28	8	12	7	13	3	19

Based on 458 persons in residential institutions.

Age: 19 - 29.

IQ: Mean = 44.0; SD = 20.8 Sex: Male and Female

Table 6.36 Ward 7 Rehabilitation

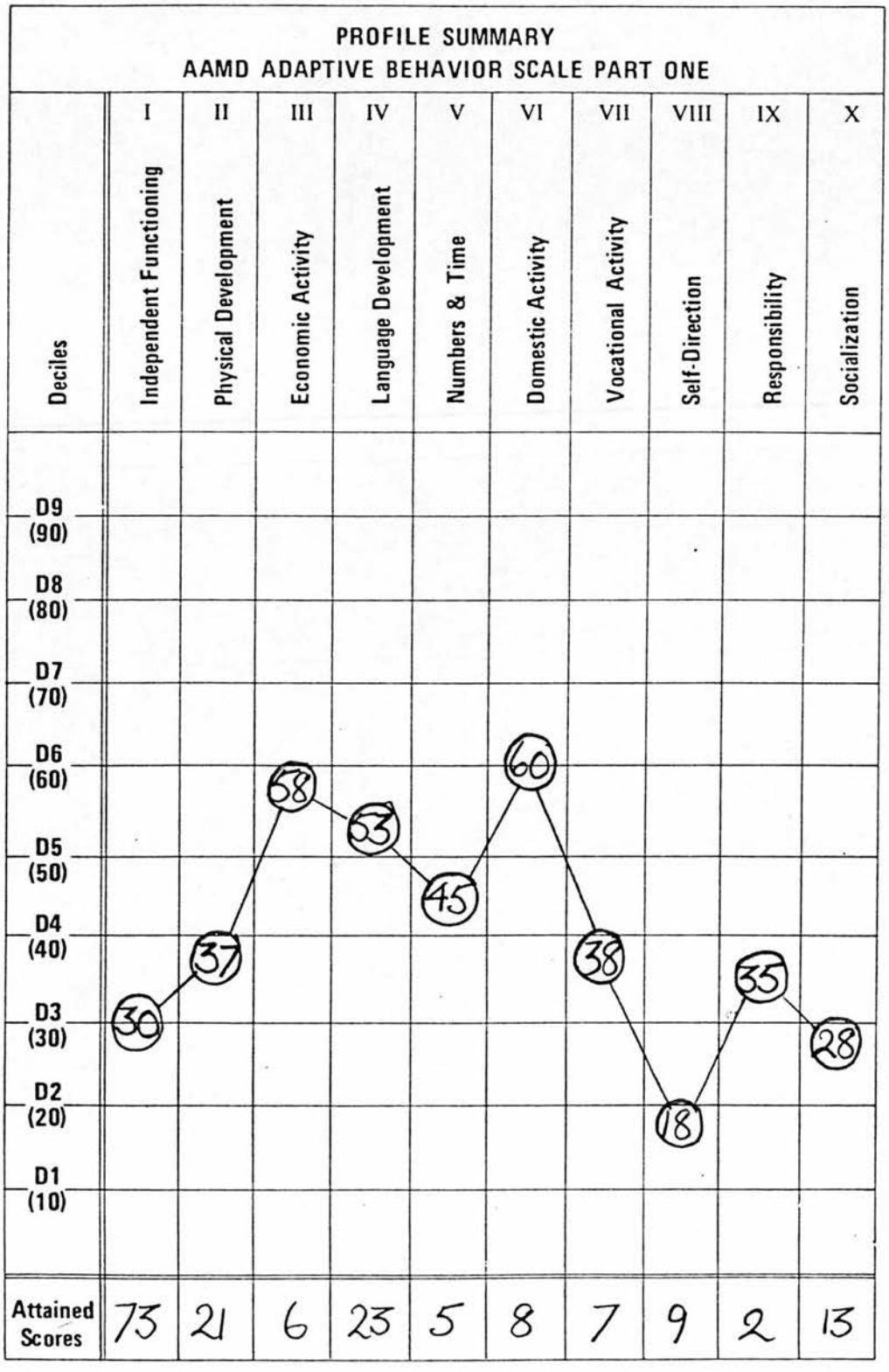


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.37 Ward 5 Rehabilitation

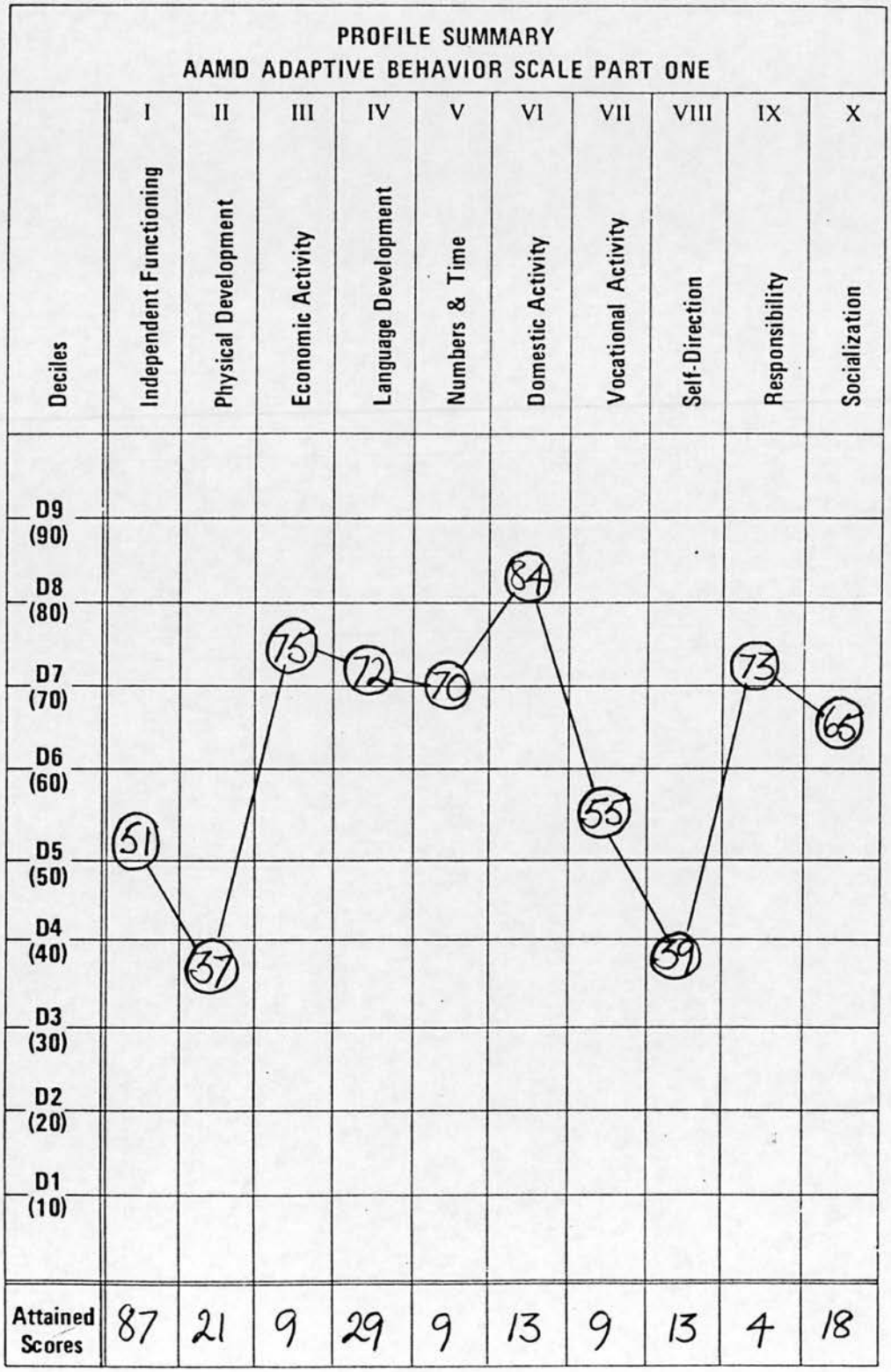


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.38 Gogarburn House Rehabilitation



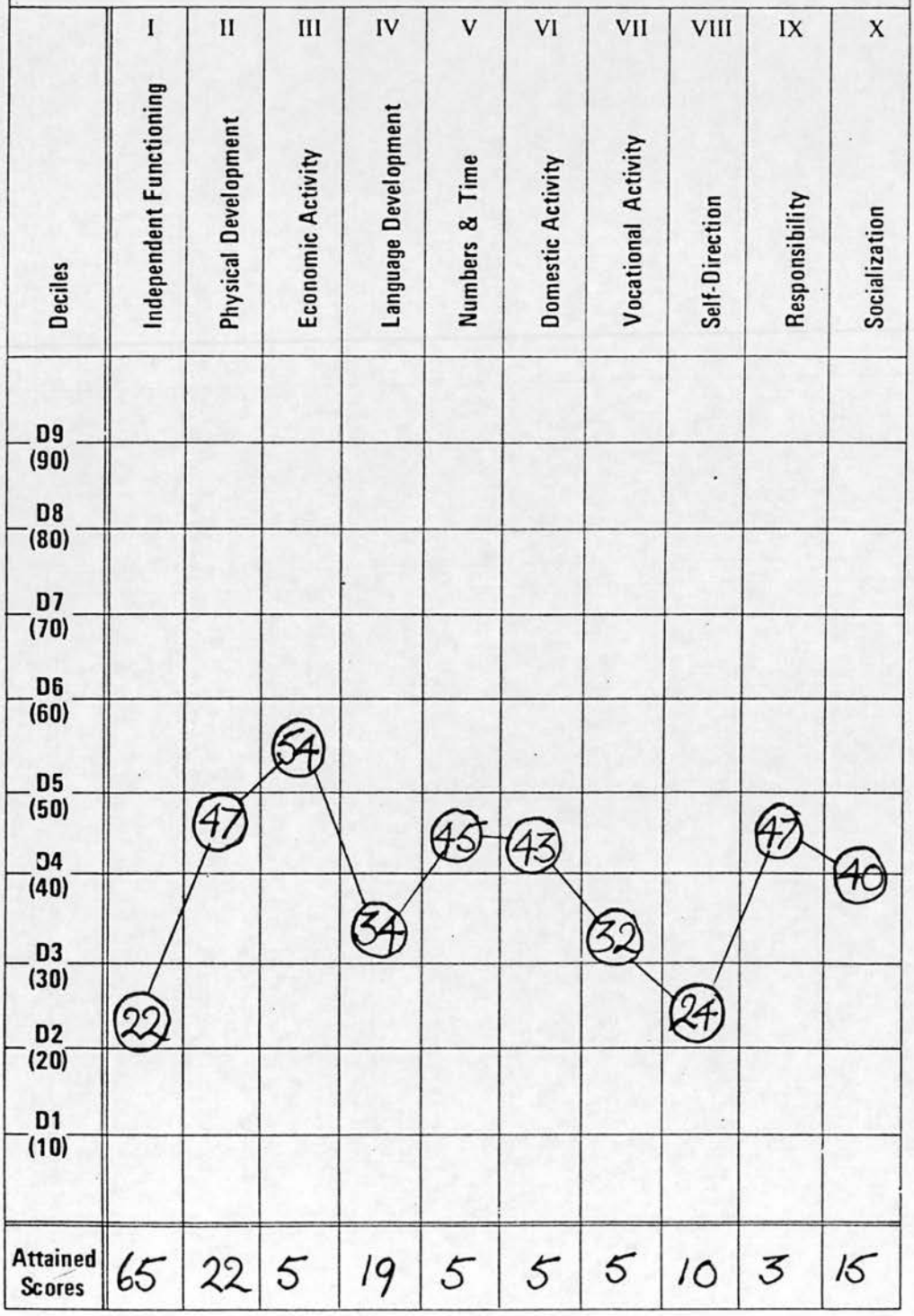
Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.39 Ward 6 Medium Grade

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

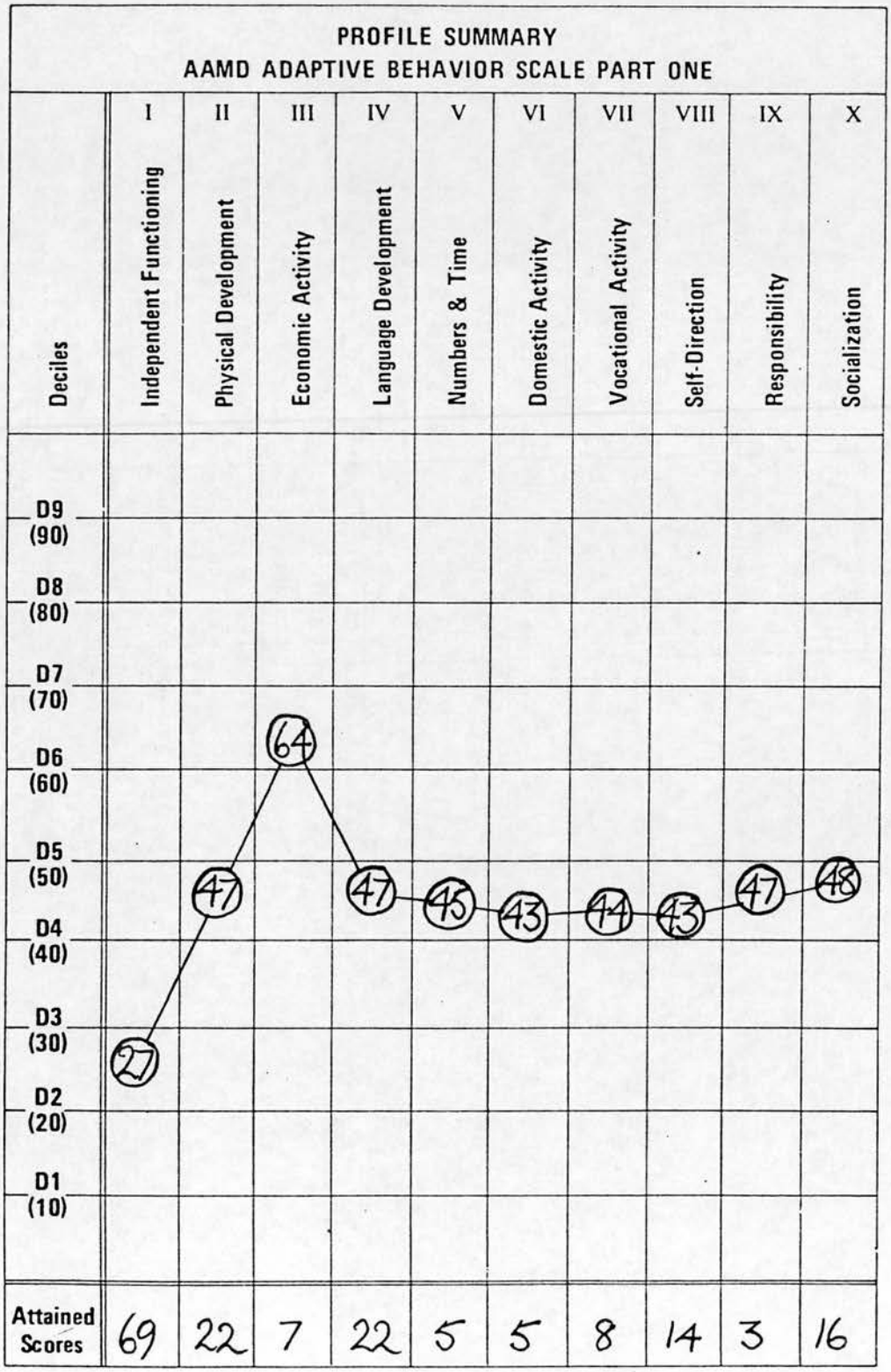


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.40 Ward 12 Medium Grade



Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.41 Ward 1 Medium Grade

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

Deciles	I Independent Functioning	II Physical Development	III Economic Activity	IV Language Development	V Numbers & Time	VI Domestic Activity	VII Vocational Activity	VIII Self-Direction	IX Responsibility	X Socialization
D9 (90)										
D8 (80)										
D7 (70)										
D6 (60)										
D5 (50)										
D4 (40)			43			39	38		35	
D3 (30)				34						27
D2 (20)	19	22			20			18		
D1 (10)										
Attained Scores	62	19	3	19	2	4	7	9	2	13

Based on 398 persons in residential institutions.

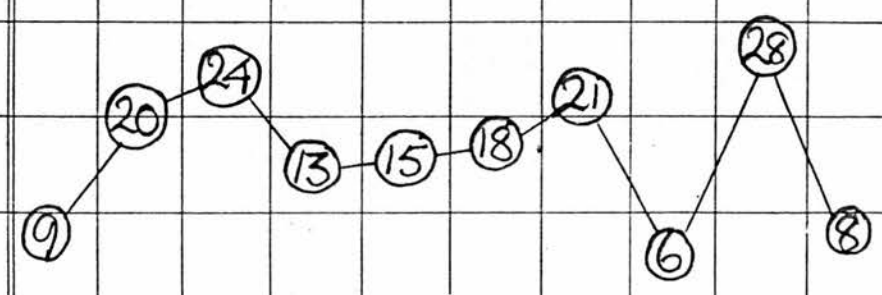
Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.42 Ward 4 Low Grade

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

Deciles	I Independent Functioning	II Physical Development	III Economic Activity	IV Language Development	V Numbers & Time	VI Domestic Activity	VII Vocational Activity	VIII Self-Direction	IX Responsibility	X Socialization
D9 (90)										
D8 (80)										
D7 (70)										
D6 (60)										
D5 (50)										
D4 (40)										
D3 (30)										
D2 (20)										
D1 (10)										
Attained Scores	43	19	0	7	0	1	0	5	1	9



Based on 458 persons in residential institutions.

Age: 19 - 29.

IQ: Mean =44.0; SD = 20.8 Sex: Male and Female

Table 6.43 Ward 4A Low Grade

PROFILE SUMMARY
AAMD ADAPTIVE BEHAVIOR SCALE PART ONE

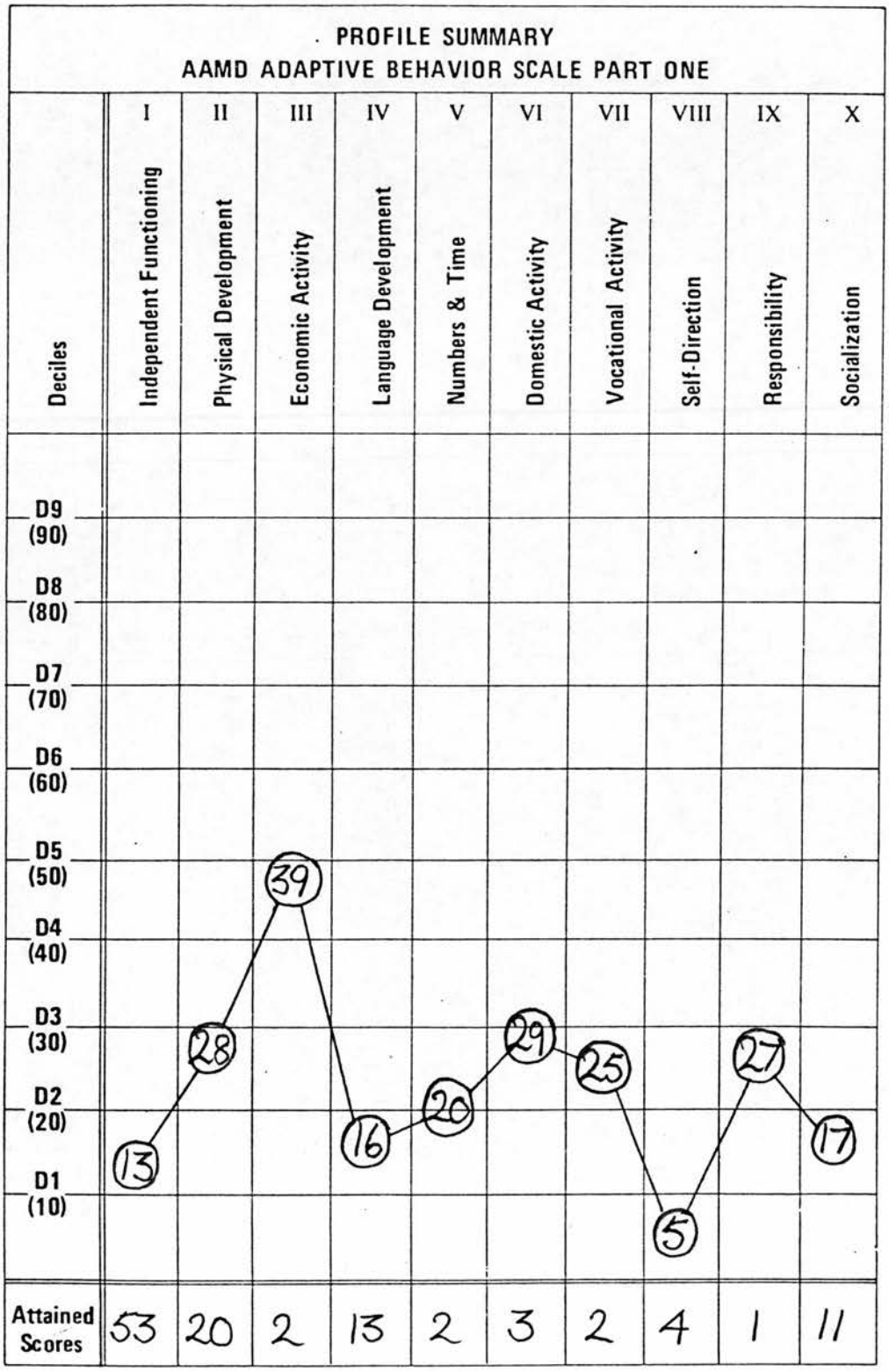
Deciles	I Independent Functioning	II Physical Development	III Economic Activity	IV Language Development	V Numbers & Time	VI Domestic Activity	VII Vocational Activity	VIII Self-Direction	IX Responsibility	X Socialization
D9 (90)										
D8 (80)										
D7 (70)										
D6 (60)										
D5 (50)			48			55				48
D4 (40)		37					32		35	
D3 (30)				30	29					
D2 (20)	23							24		
D1 (10)										
Attained Scores	66	21	4	18	3	7	5	10	2	16

Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.44 Ward 11 Low Grade



Based on 398 persons in residential institutions.

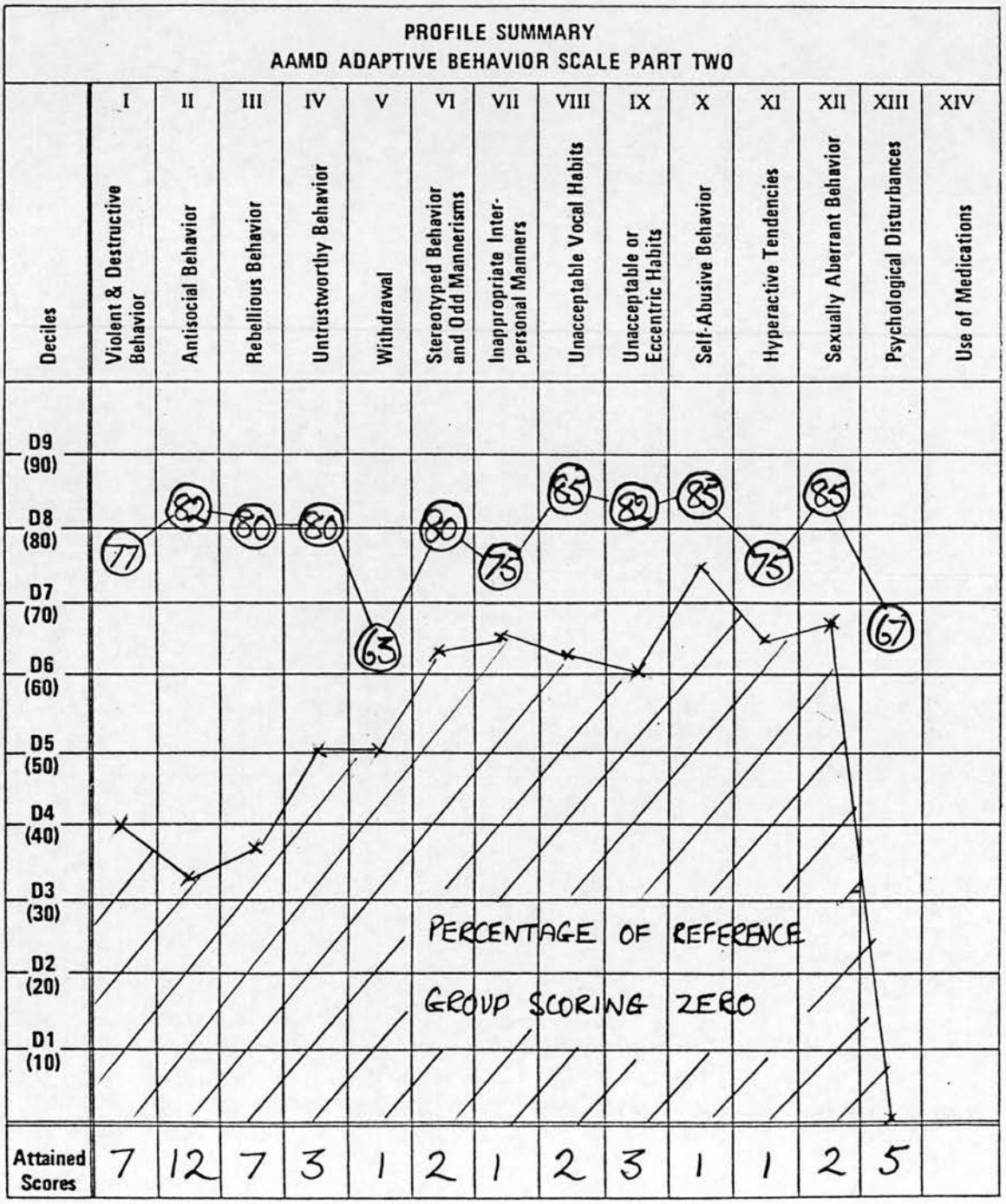
Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

APPENDIX L

ADAPTIVE BEHAVIOR SCALE PART II PROFILE SUMMARIES

Table 6.45 Ward 15 Child/Adolescent Unit

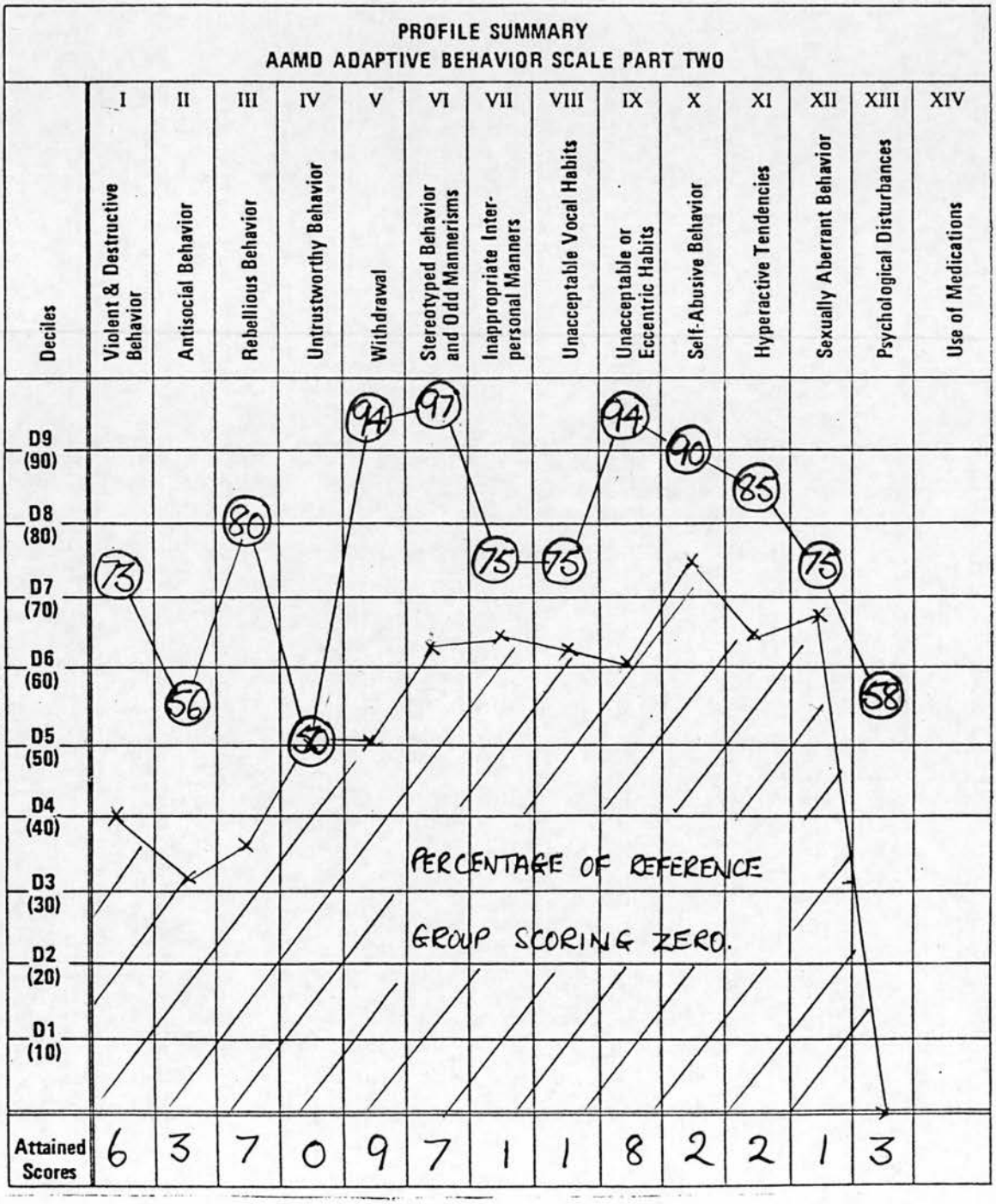


Based on 458 persons in residential institutions.

Age: 13 - 17.

IQ: Mean = 44.2; SD = 21.1 Sex: Male and Female

Table 6.46 Ward 16 Child/Adolescent Unit

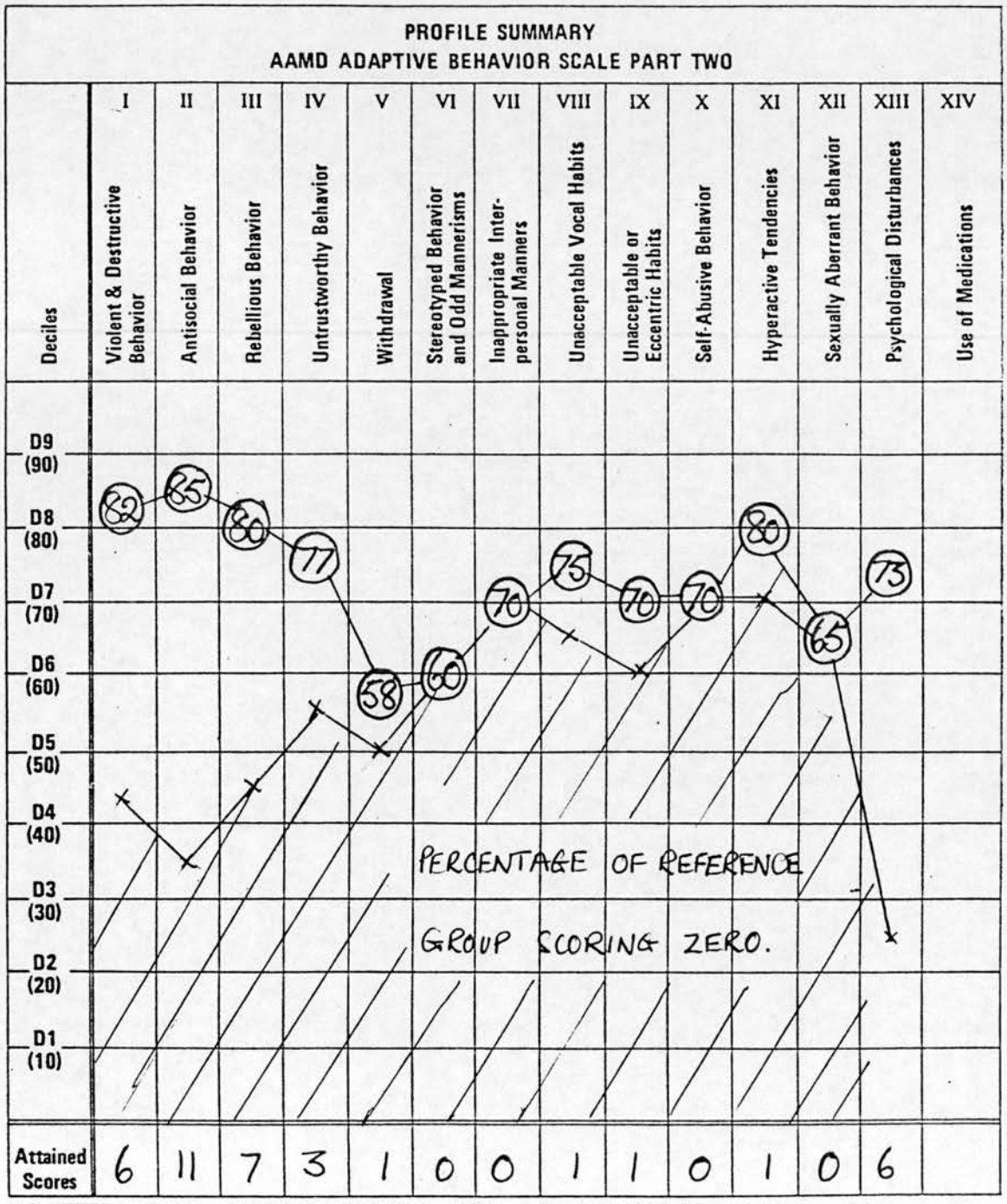


Based on 458 persons in residential institutions.

Age: 13 - 17.

IQ: Mean = 44.2; SD = 21.1 Sex: Male and Female

Table 6.47 Ward 8A Child/Adolescent Unit

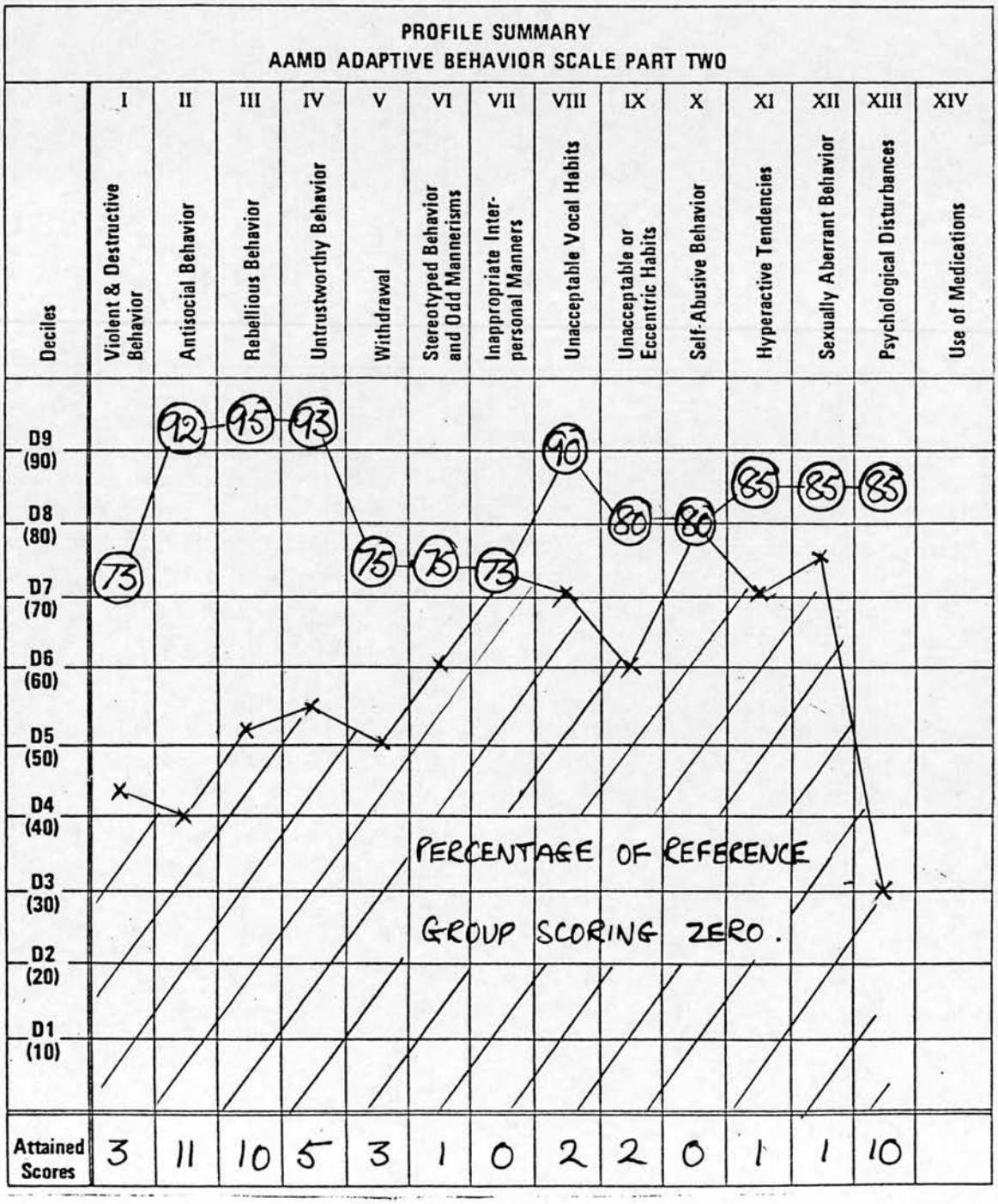


Based on 458 persons in residential institutions.

Age: 19 - 29.

IQ: Mean = 44.0; SD = 20.8 Sex: Male and Female

Table 6.48 Ward 7 Rehabilitation

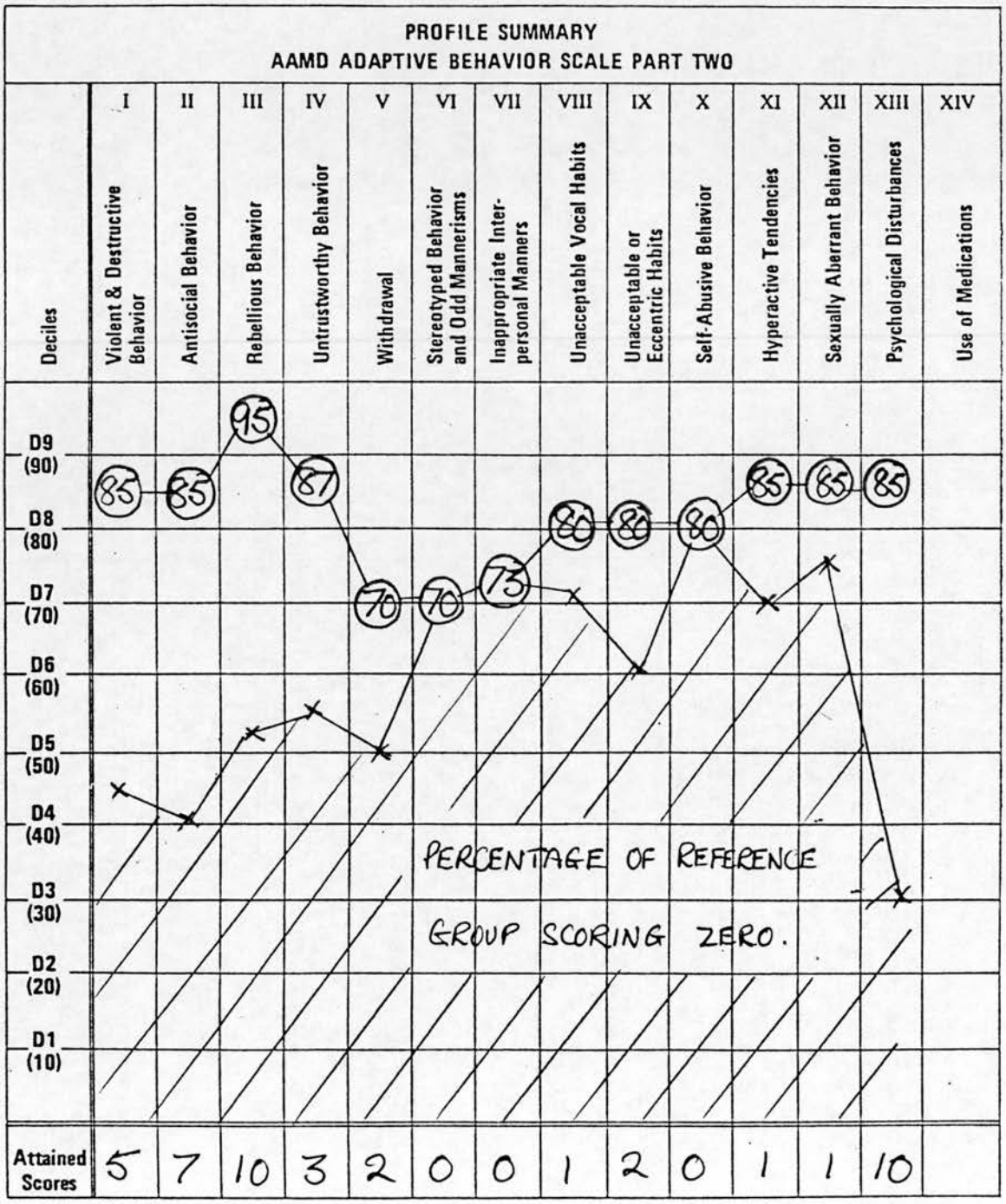


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.49 Ward 5 Rehabilitation

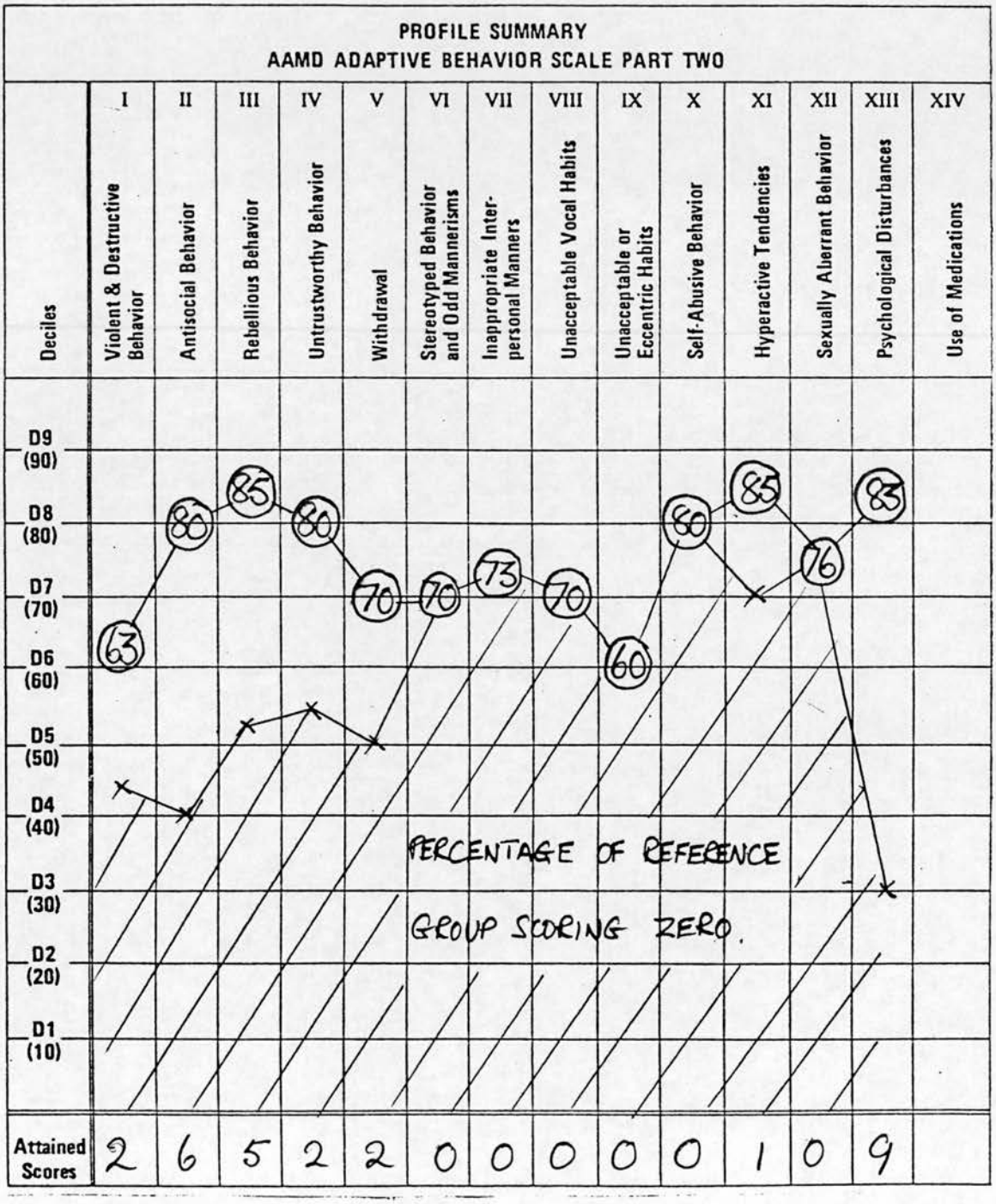


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.50 Gogarburn House Rehabilitation

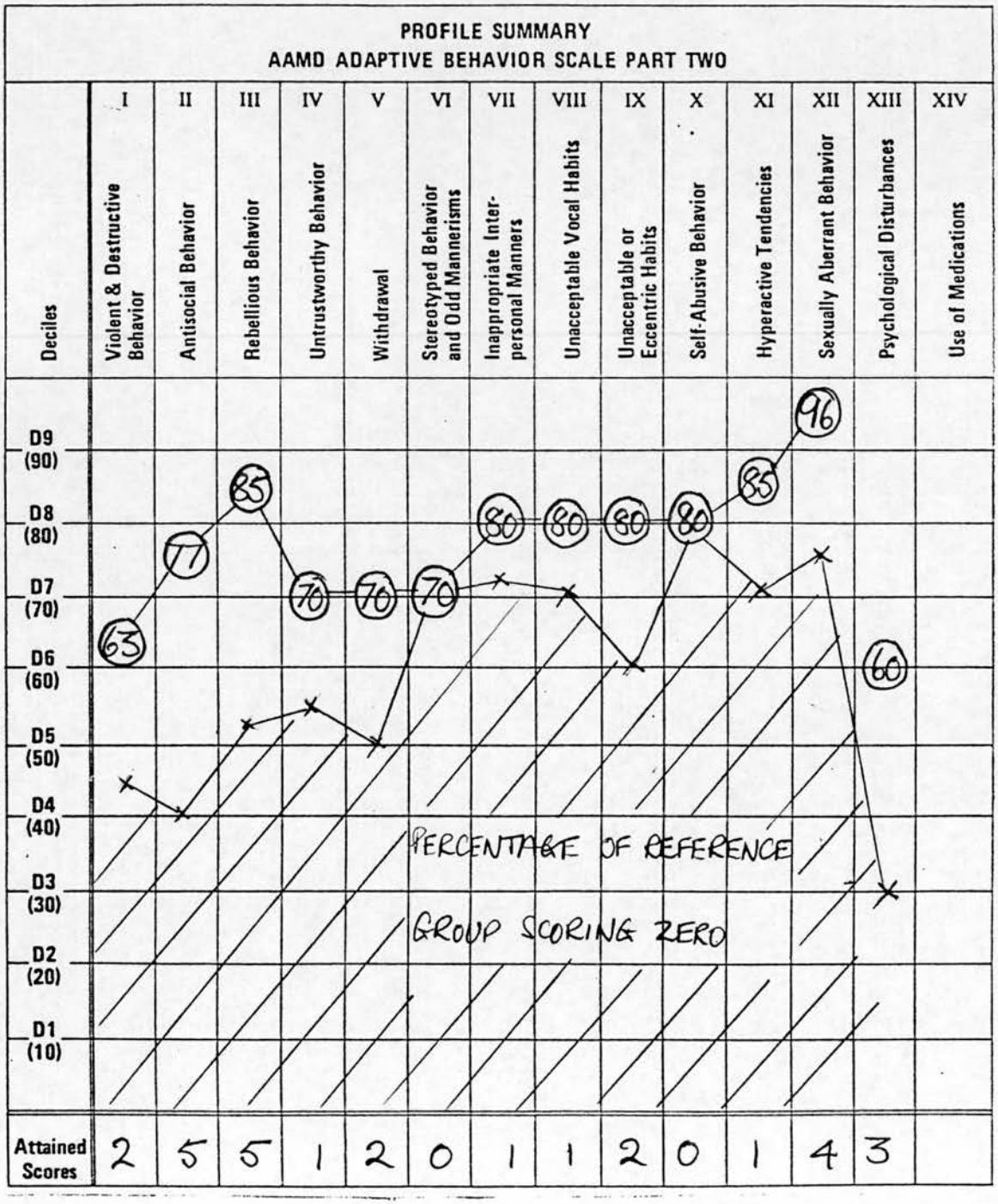


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.51 Ward 6 Medium Grade

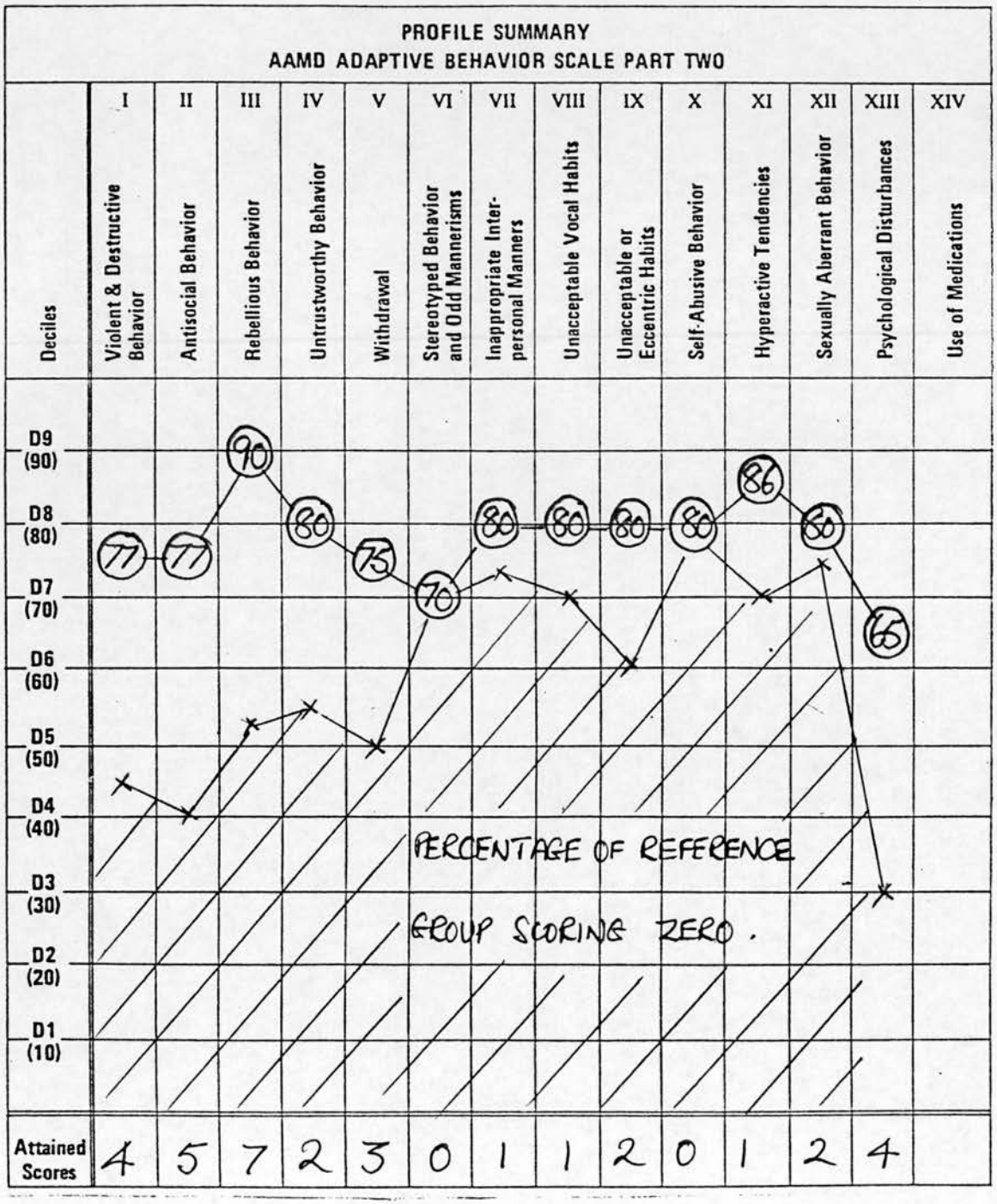


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.52 Ward 12 Medium Grade

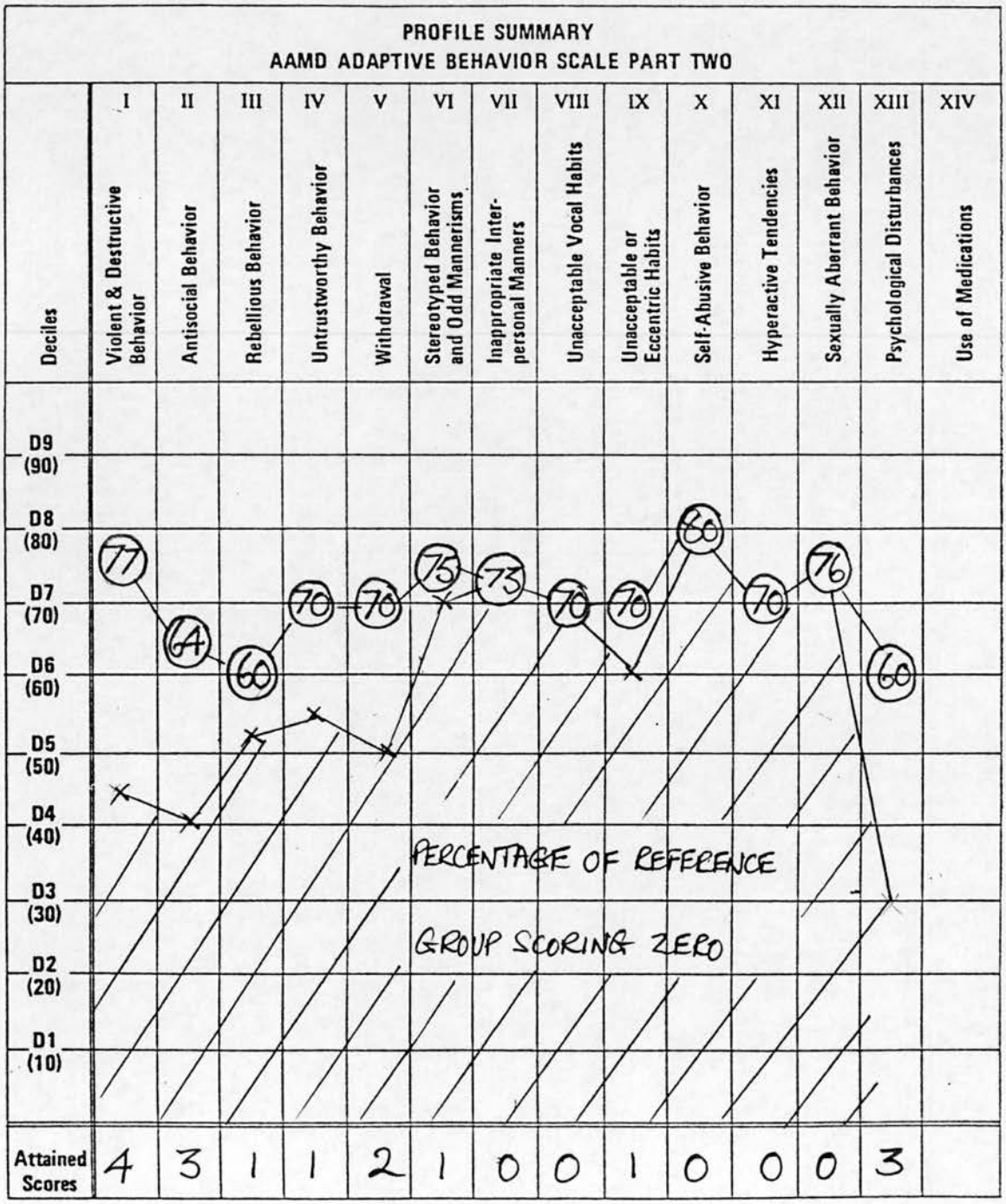


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.53 Ward 1 Medium Grade

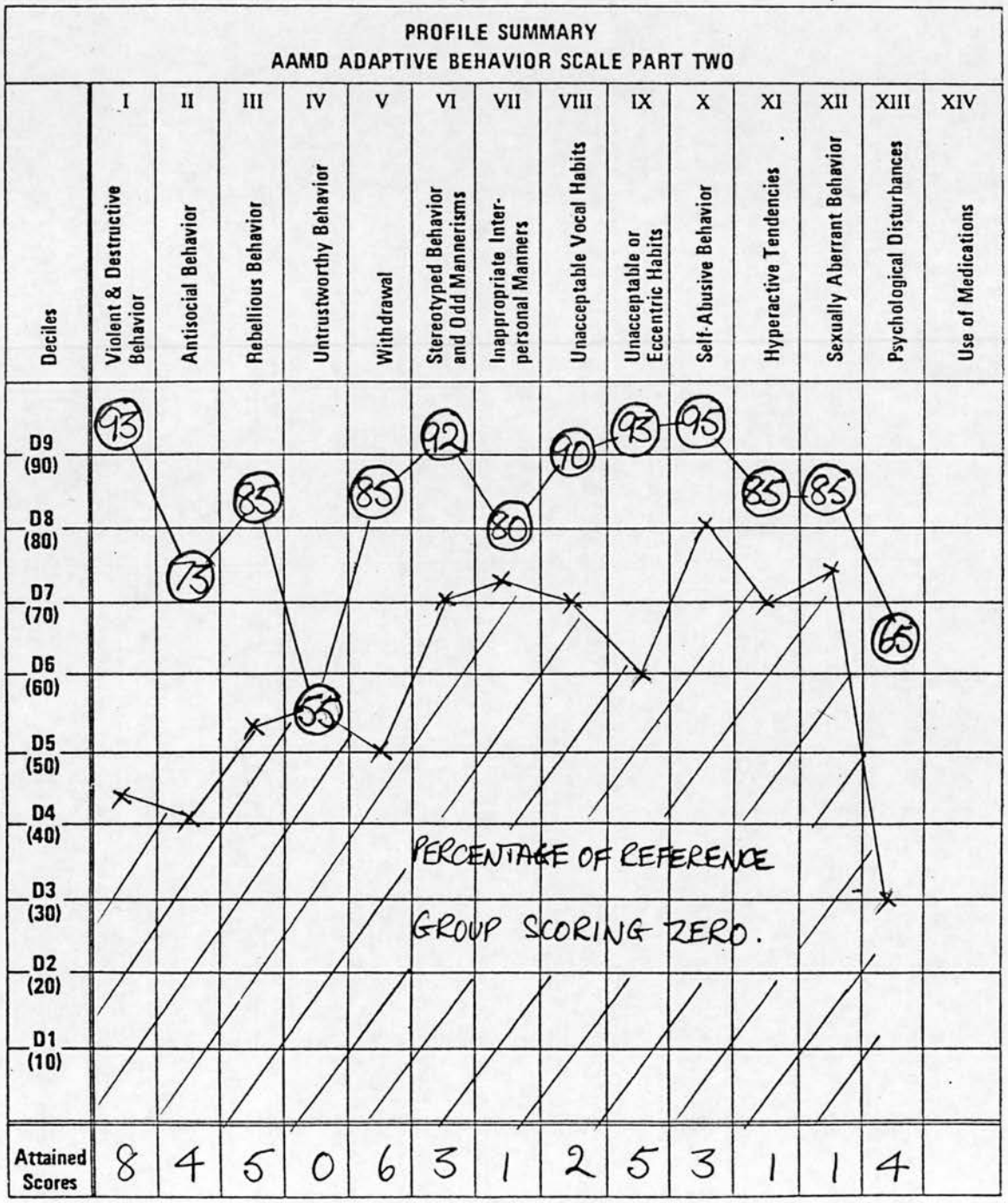


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.54 Ward 4 Low Grade

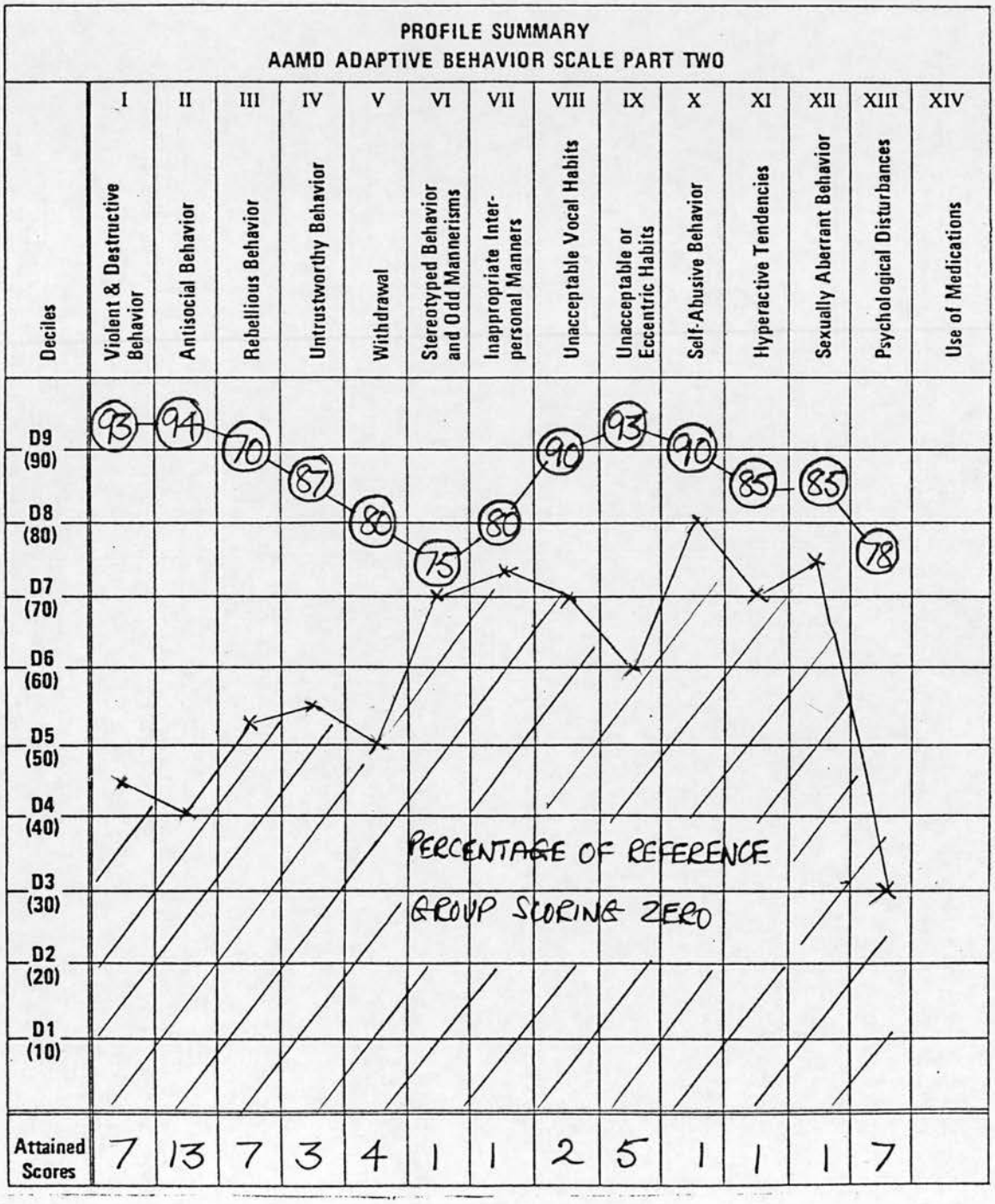


Based on 458 persons in residential institutions.

Age: 19 - 29.

IQ: Mean = 44.0; SD = 20.8 Sex: Male and Female

Table 6.55 Ward 4A Low Grade

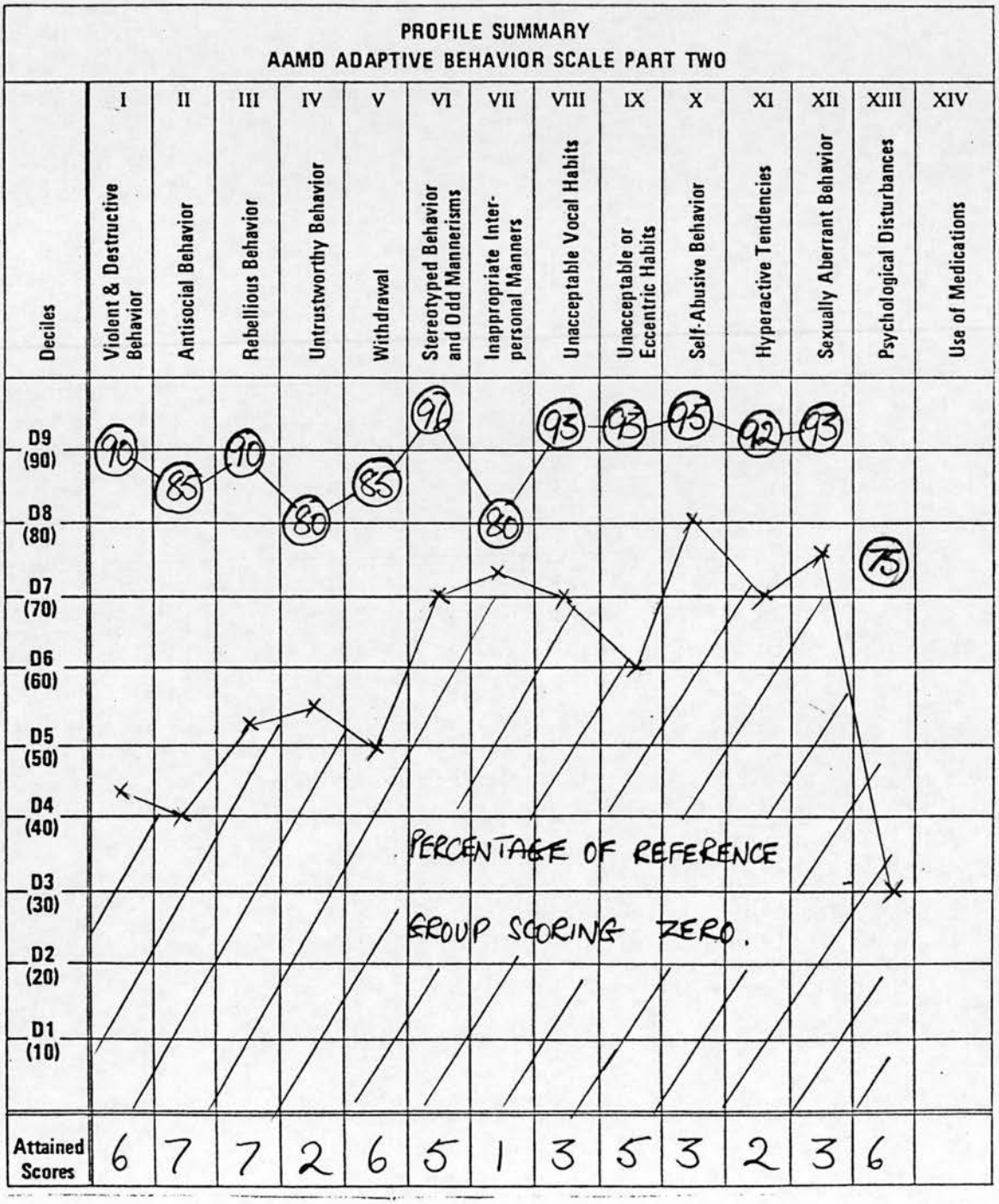


Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

Table 6.56 Ward 11 Low Grade



Based on 398 persons in residential institutions.

Age: 30 - 49.

IQ: Mean = 43.6; SD = 21.9 Sex: Male and Female

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